


STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING						FORM 3 AMENDED REPORT <input type="checkbox"/>				
<b>APPLICATION FOR PERMIT TO DRILL</b>						1. WELL NAME and NUMBER NBU 921-23I4CS				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT NATURAL BUTTES				
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES				
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.						7. OPERATOR PHONE 720 929-6515				
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217						9. OPERATOR E-MAIL julie.jacobson@anadarko.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU 0149075			11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN') Ute Indian Tribe			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL		FOOTAGES		QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN		
LOCATION AT SURFACE		377 FSL 1195 FEL		SESE	23	9.0 S	21.0 E	S		
Top of Uppermost Producing Zone		1567 FSL 494 FEL		NESE	23	9.0 S	21.0 E	S		
At Total Depth		1567 FSL 494 FEL		NESE	23	9.0 S	21.0 E	S		
21. COUNTY UINTAH			22. DISTANCE TO NEAREST LEASE LINE (Feet) 494			23. NUMBER OF ACRES IN DRILLING UNIT 640				
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 307			26. PROPOSED DEPTH MD: 11112 TVD: 10889				
27. ELEVATION - GROUND LEVEL 4897			28. BOND NUMBER WYB000291			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496				
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2800	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 11112	11.6	HCP-110 LT&C	13.0	Premium Lite High Strength	340	3.38	12.0
							50/50 Poz	1600	1.31	14.3
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Danielle Piernot				TITLE Regulatory Analyst			PHONE 720 929-6156			
SIGNATURE				DATE 05/24/2012			EMAIL danielle.piernot@anadarko.com			
API NUMBER ASSIGNED 43047527470000				APPROVAL  Permit Manager						

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-23I4CS**

Surface:	377 FSL / 1195 FEL	SESE
BHL:	1567 FSL / 494 FEL	NESE

Section 23 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU 0149075

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2.a **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,555'	
Birds Nest	1,845'	Water
Mahogany	2,349'	Water
Wasatch	4,842'	Gas
Mesaverde	7,607'	Gas
Sego	9,839'	Gas
Castlegate	9,867'	Gas
MN5	10,289'	Gas
TVD =	10,889'	
TD =	11,112'	

- 2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. **Evaluation Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. **Abnormal Conditions:**7.a **Blackhawk (Part of Mesaverde Formation) Target Formation**

Maximum anticipated bottom hole pressure calculated at 10889' TVD, approximately equals  
7,187 psi (0.66 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,841 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

7.b **Wasach/Mesaverde Target Formation**

Maximum anticipated bottom hole pressure calculated at 9839' TVD, approximately equals  
6,297 psi (0.64 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,119 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

9. **Variances:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program  
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements  
associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### **Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### **Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

**Variance for FIT Requirements**

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

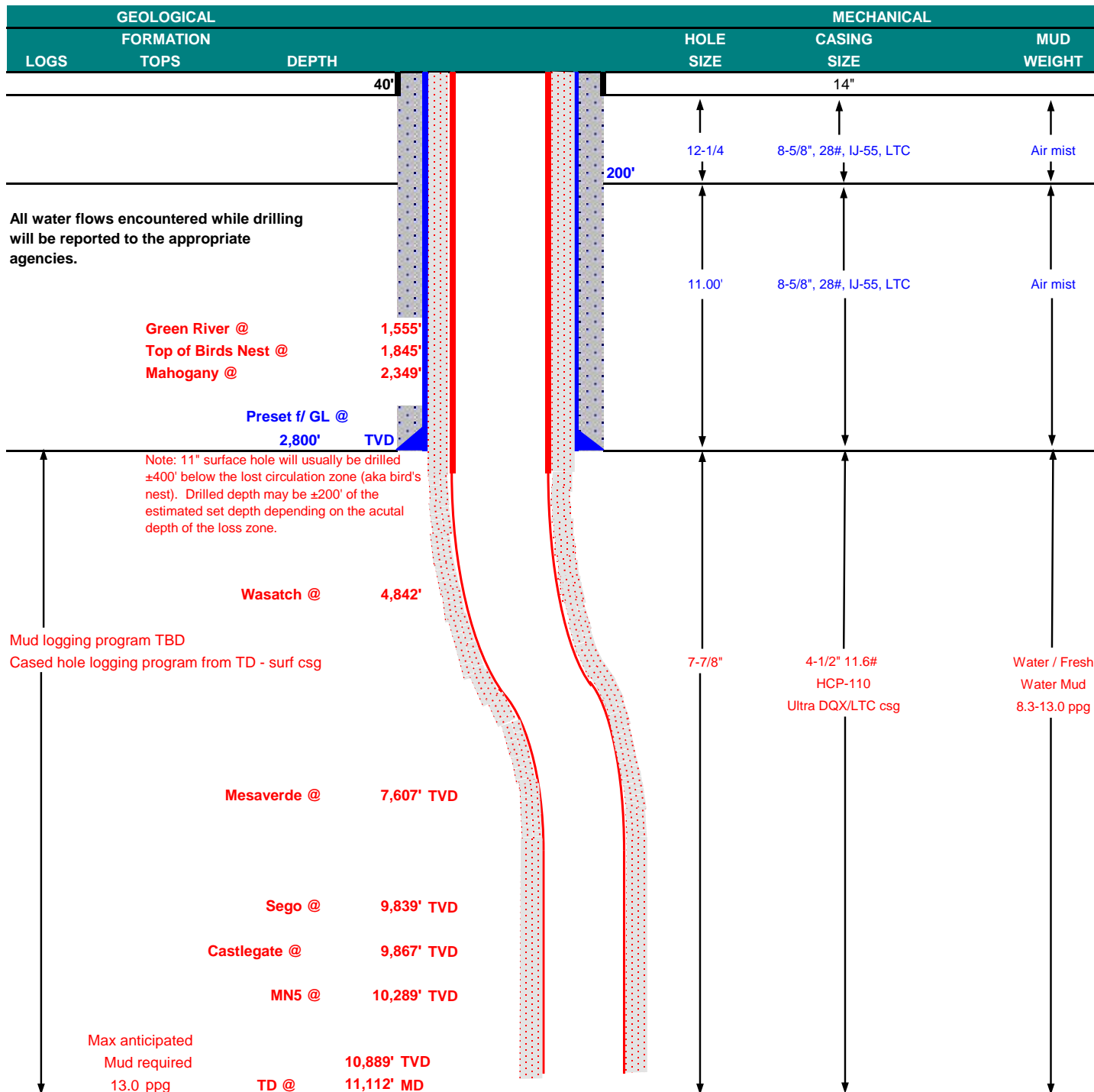
**10. Other Information:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



## KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	December 30, 2011		
WELL NAME	NBU 921-23I4CS					TD	10,889'	TVD	11,112' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		4,897'
SURFACE LOCATION	SESE	377 FSL	1195 FEL	Sec 23	T 9S	R 21E			
	Latitude:	40.015266	Longitude:	-109.513782		NAD 83			
BTM HOLE LOCATION	NESE	1567 FSL	494 FEL	Sec 23	T 9S	R 21E			
	Latitude:	40.018535	Longitude:	-109.511289		NAD 83			
OBJECTIVE ZONE(S)	BLACKHAWK								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (Surface), UDOGM Tri-County Health Dept.								





## KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,800	28.00	IJ-55	LTC	1.92	1.43	5.07	N/A
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.18	279,000	367,174
	4-1/2"	5,000 to 11,112'	11.60	HCP-110	LTC	1.19	1.18	4.91	3.55

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @

9000 psi)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
NOTE: If well will circulate water to surface, option 2 will be utilized							
SURFACE Option 2	LEAD	2,300'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	210	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,342'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	340	35%	12.00	3.38
	TAIL	6,770'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,600	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

DATE:

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

RECEIVED: May 22, 2012

RECEIVED: May 22, 2012

**KERR-McGEE OIL & GAS ONSHORE LP****WASATCH/MESAVERDE DRILLING PROGRAM****CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,800	28.00	IJ-55	LTC	1.92	1.43	5.07	N/A
						7,780	6,350		267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	0.99		2.83
						10,690	8,650	223,000	
	4-1/2"	5,000 to 10,062'	11.60	HCP-110	LTC	1.53	1.35	4.69	

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi)

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	2,300'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,342'	Premium Lite II + 0.25 pps	340	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,720'	50/50 Poz/G + 10% salt + 2% gel	1,350	35%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

DATE:

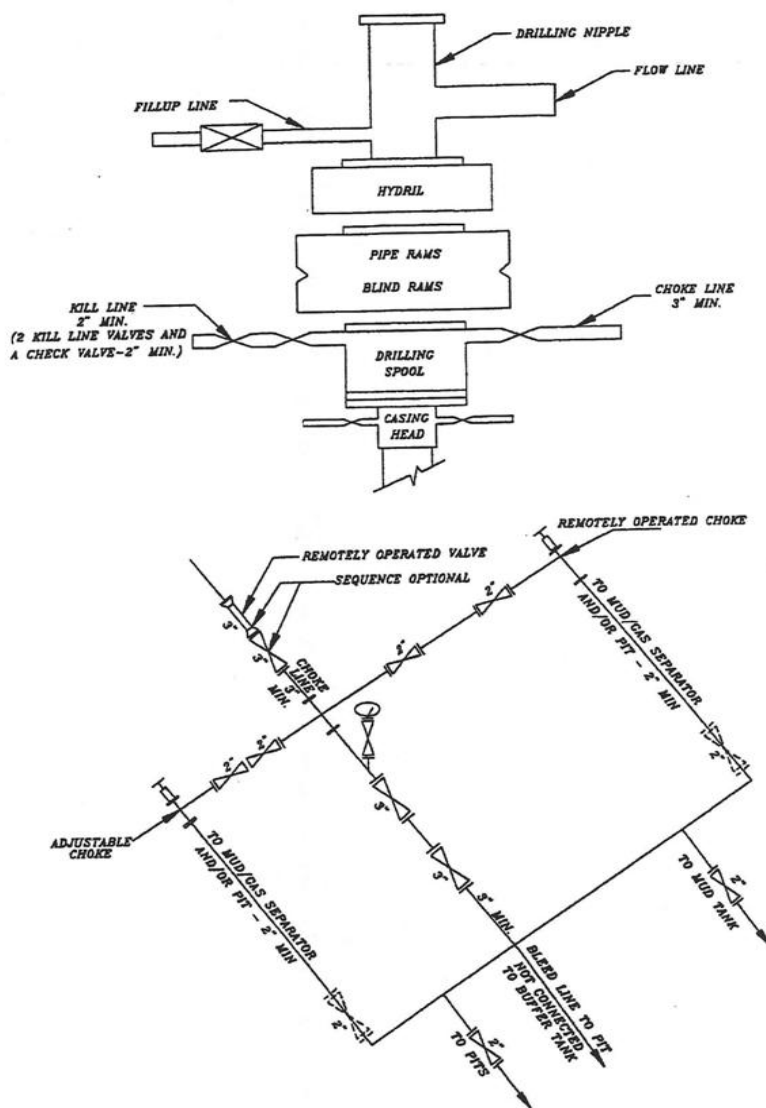
**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

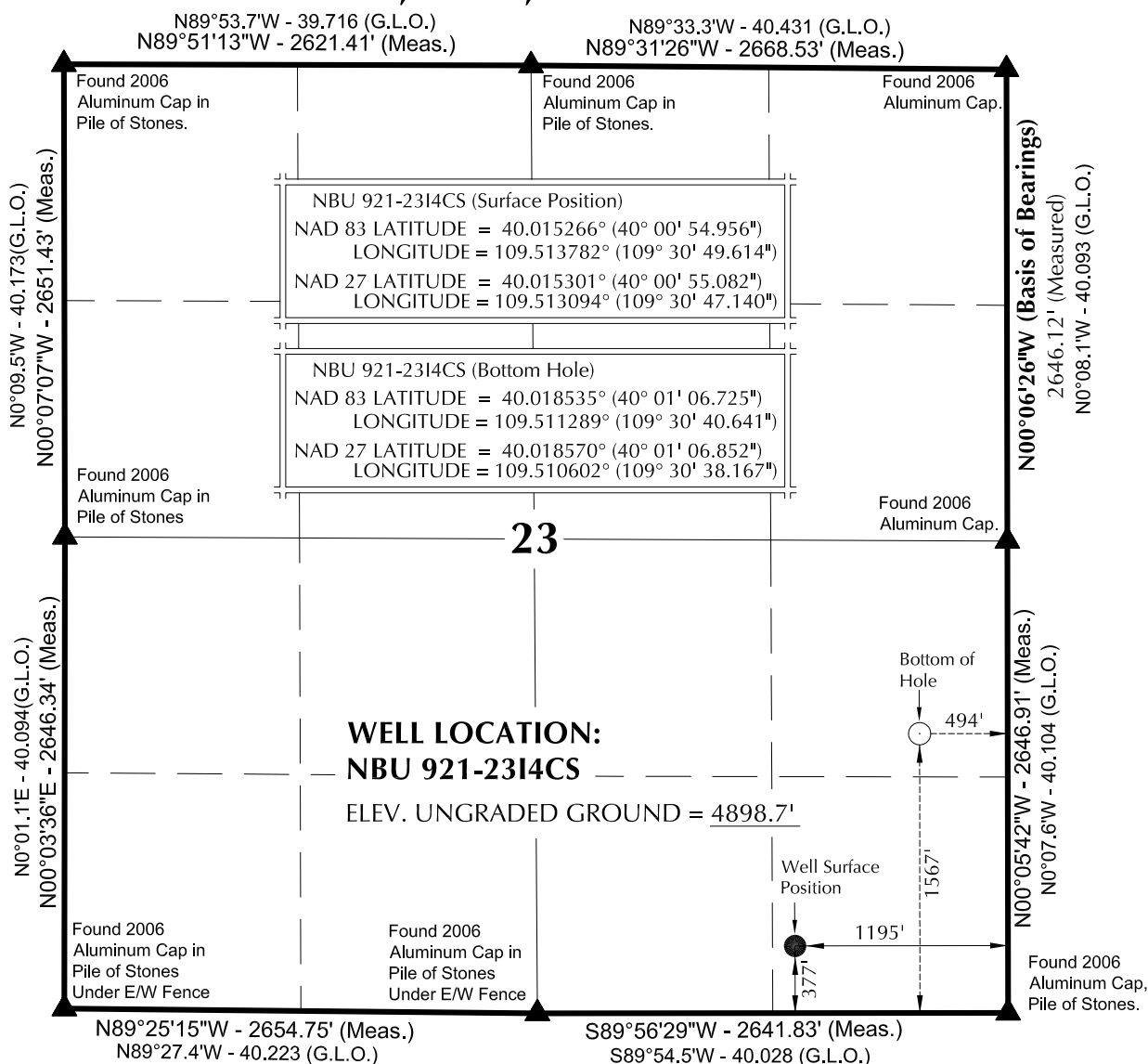
RECEIVED: May 22, 2012

**EXHIBIT A**  
**NBU 921-2314CS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

**T9S, R21E, S.L.B.&M.**



NOTES:

- ▲ = Section Corners Located
1. Well footages are measured at right angles to the Section Lines.
  2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
  3. The Bottom of hole bears N30°24'35"E 1380.81' from the Surface Position.
  4. Bearings are based on Global Positioning Satellite observations.
  5. Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

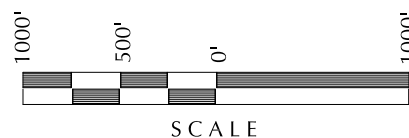
WELL PAD: NBU 921-23P

**NBU 921-2314CS**  
**WELL PLAT**

1567' FSL, 494' FEL (Bottom Hole)  
NE  $\frac{1}{4}$  SE  $\frac{1}{4}$  OF SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH.



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED  
FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR  
UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE  
AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

No. 6028691  
 JOHN R  
 SLAUGH  
 9-12-11  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION No. 6028691  
 STATE OF UTAH  
 John R. Slauch

## TIMBERLINE

(435) 789-1365

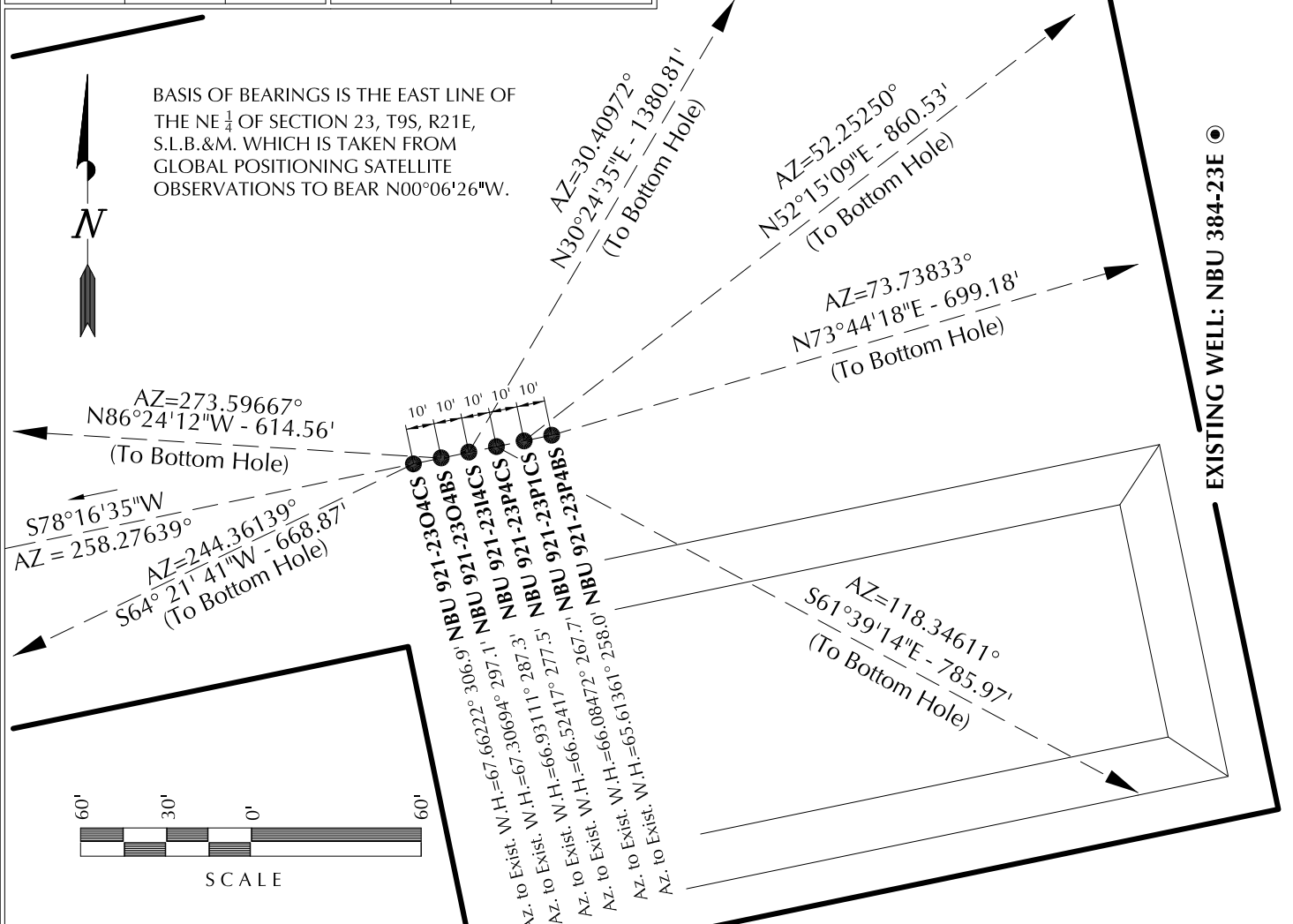
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 7-19-11	SURVEYED BY: W.W.	SHEET NO: <b>4</b> 4 OF 18
DATE DRAWN: 8-19-11	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'	Date Last Revised:	

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 921-23P4BS	40°00'55.016"	109°30'49.237"	40°00'55.143"	109°30'46.763"	383' FSL	40°00'56.954"	109°30'40.613"	40°00'57.081"	109°30'38.140"	578' FSL
NBU 921-23P1CS	40.015282°	109.513677°	40.015317°	109.512990°	1166' FEL	40.015821°	109.511281°	40.015856°	109.510594°	494' FEL
NBU 921-23P4CS	40°00'54.996"	109°30'49.362"	40°00'55.123"	109°30'46.888"	381' FSL	40°01'00.204"	109°30'40.623"	40°01'00.331"	109°30'38.149"	907' FSL
NBU 921-23O4BS	40.015277°	109.513712°	40.015312°	109.513024°	1175' FEL	40.016723°	109.511284°	40.016759°	109.510597°	494' FEL
NBU 921-23I4CS	40°00'54.976"	109°30'49.488"	40°00'55.103"	109°30'47.014"	379' FSL	40°00'51.293"	109°30'40.597"	40°00'51.419"	109°30'38.124"	5' FSL
NBU 921-23O4CS	40.015271°	109.513747°	40.015306°	109.513059°	1185' FEL	40.014248°	109.511277°	40.014283°	109.510590°	494' FEL
NBU 921-23O4BS	40°00'54.956"	109°30'49.614"	40°00'55.082"	109°30'47.140"	377' FSL	40°01'06.725"	109°30'40.641"	40°01'06.852"	109°30'38.167"	1567' FSL
NBU 921-23O4CS	40.015266°	109.513782°	40.015301°	109.513094°	1195' FEL	40.018535°	109.511289°	40.018570°	109.510602°	494' FEL
NBU 921-23O4BS	40°00'54.935"	109°30'49.740"	40°00'55.062"	109°30'47.266"	375' FSL	40°00'55.313"	109°30'57.621"	40°00'55.440"	109°30'55.147"	414' FSL
NBU 921-23O4CS	40.015260°	109.513817°	40.015295°	109.513129°	1205' FEL	40.015365°	109.516006°	40.015400°	109.515319°	1818' FEL
NBU 921-23O4CS	40°00'54.915"	109°30'49.866"	40°00'55.042"	109°30'47.392"	373' FSL	40°00'52.053"	109°30'57.612"	40°00'52.179"	109°30'55.137"	84' FSL
NBU 921-23O4CS	40.015254°	109.513852°	40.015289°	109.513164°	1215' FEL	40.014459°	109.516003°	40.014494°	109.515316°	1818' FEL
NBU 384-23E	40°00'56.069"	109°30'46.219"	40°00'56.196"	109°30'43.745"	489' FSL					
	40.015575°	109.512839°	40.015610°	109.512151°	930' FEL					

## RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 921-23P4BS	195.8'	671.2'	NBU 921-23P1CS	526.8'	680.4'	NBU 921-23P4CS	-373.2'	691.7'	NBU 921-23I4CS	1190.8'	698.9'
NBU 921-23O4BS	38.6'	-613.3'	NBU 921-23O4CS	-289.4'	-603.0'						



**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-23P**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH.



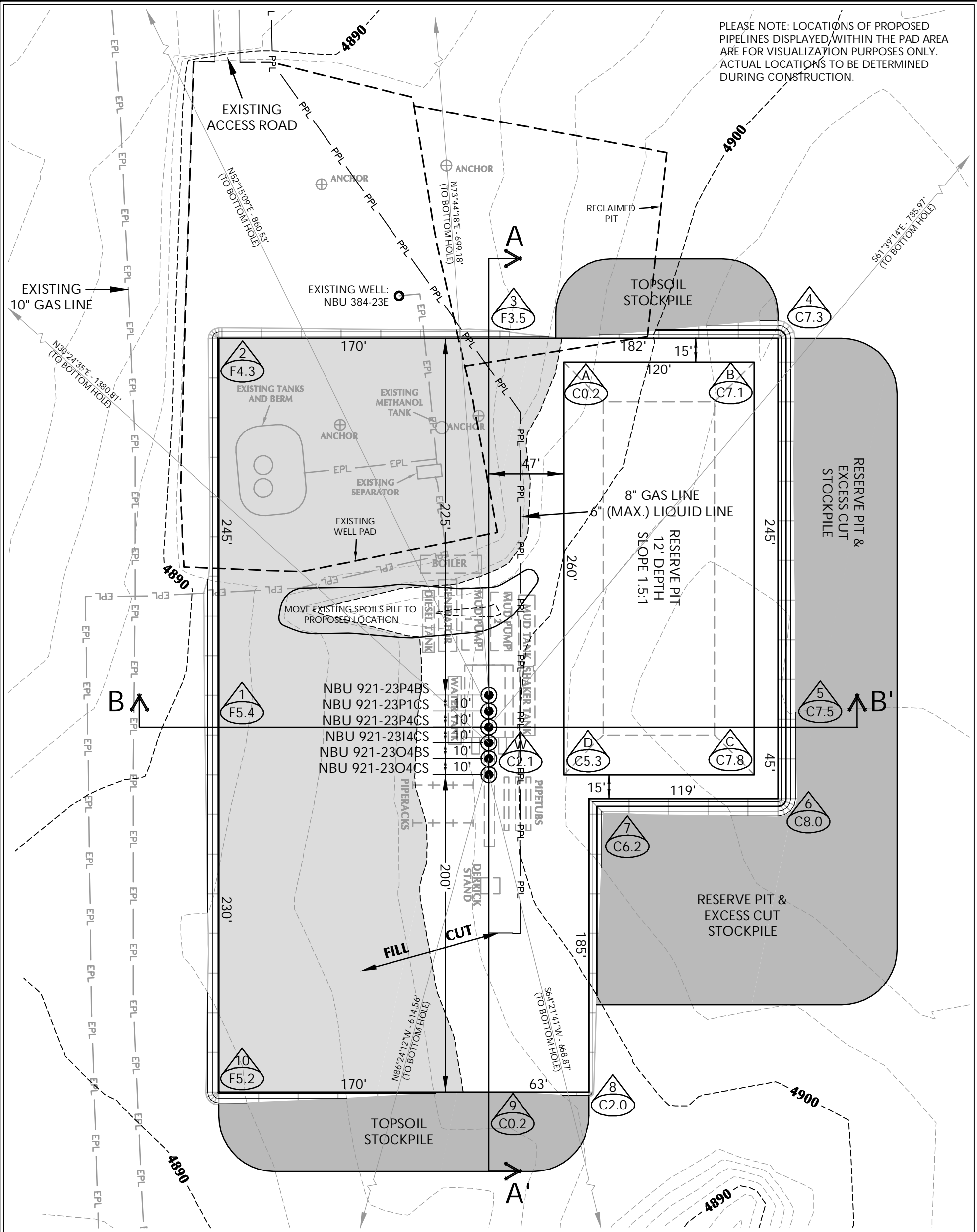
**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 7-19-11	SURVEYED BY: W.W.	SHEET NO: <b>7</b> 7 OF 18
DATE DRAWN: 8-20-11	DRAWN BY: T.J.R.	
SCALE: 1" = 60'	Date Last Revised:	



PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

WELL PAD - NBU 921-23P DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4898.7'  
FINISHED GRADE ELEVATION = 4896.6'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1  
TOTAL WELL PAD AREA = 3.61 ACRES  
TOTAL DISTURBANCE AREA = 4.92 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-23P

WELL PAD - LOCATION LAYOUT  
NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 10,519 C.Y.  
TOTAL FILL FOR WELL PAD = 9,715 C.Y.  
TOPSOIL @ 6" DEPTH = 2,453 C.Y.  
EXCESS MATERIAL = 804 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT  
+/- 11,020 C.Y.  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 42,290 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL PROPOSED PIPELINE
- EPL EXISTING PIPELINE



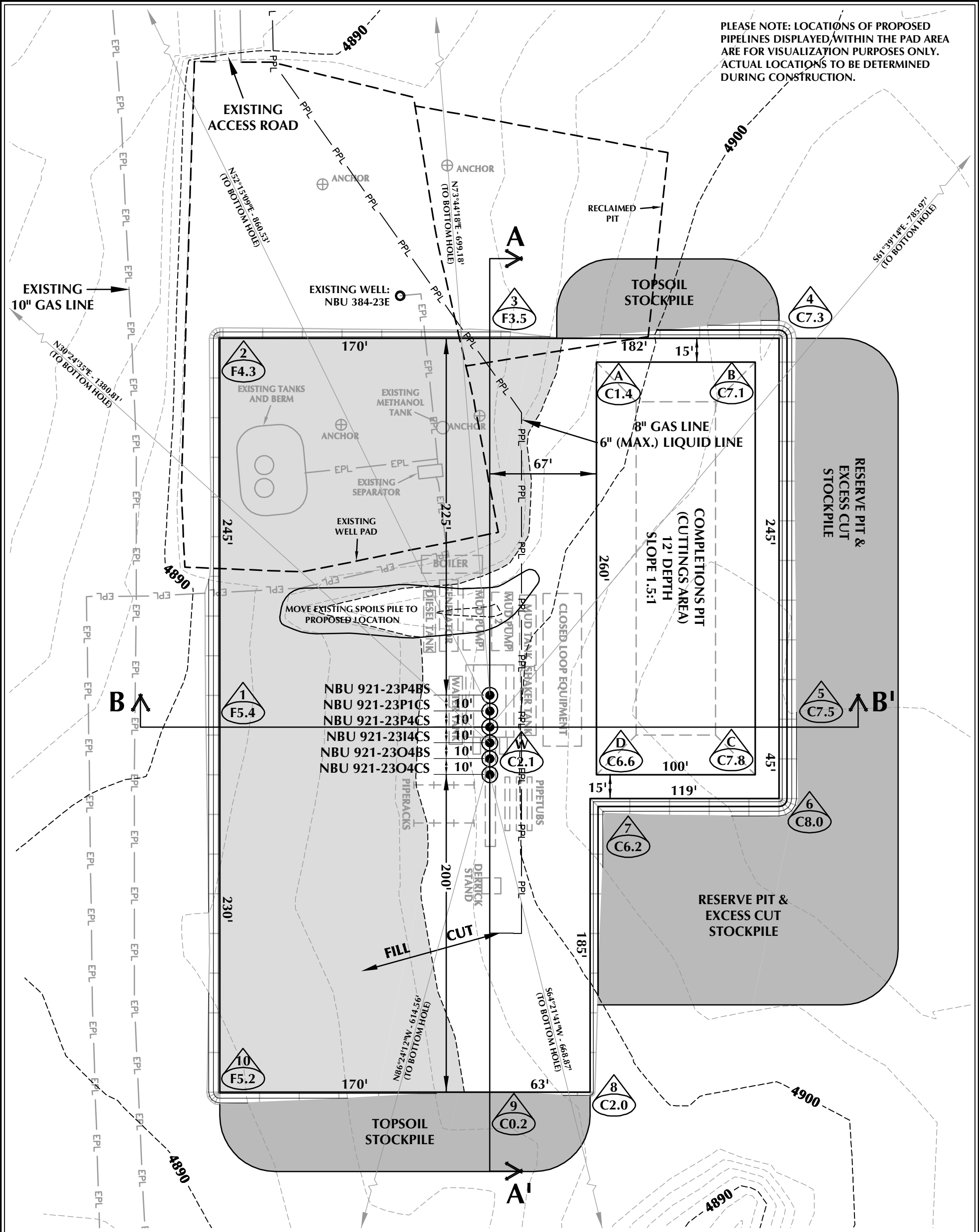
HORIZONTAL 0 30' 60' 1" = 60'  
2' CONTOURS

SCALE: 1"=60' DATE: 9/9/11 SHEET NO:

REVISED: 8 8 OF 18

TIMBERLINE ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365



PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

WELL PAD - NBU 921-23P (CLOSED LOOP) DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 4898.7'  
FINISHED GRADE ELEVATION = 4896.6'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1  
TOTAL WELL PAD AREA = 3.61 ACRES  
TOTAL DISTURBANCE AREA = 4.92 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-23P

WELL PAD - LOCATION LAYOUT  
NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 10,519 C.Y.  
TOTAL FILL FOR WELL PAD = 9,715 C.Y.  
TOPSOIL @ 6" DEPTH = 2,453 C.Y.  
EXCESS MATERIAL = 804 C.Y.

COMPLETIONS PIT QUANTITIES

TOTAL CUT FOR COMPLETIONS PIT  
+/- 8,870 C.Y.  
COMPLETIONS PIT CAPACITY  
(2' OF FREEBOARD)  
+/- 33,770 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL
- EPL
- EXISTING PIPELINE

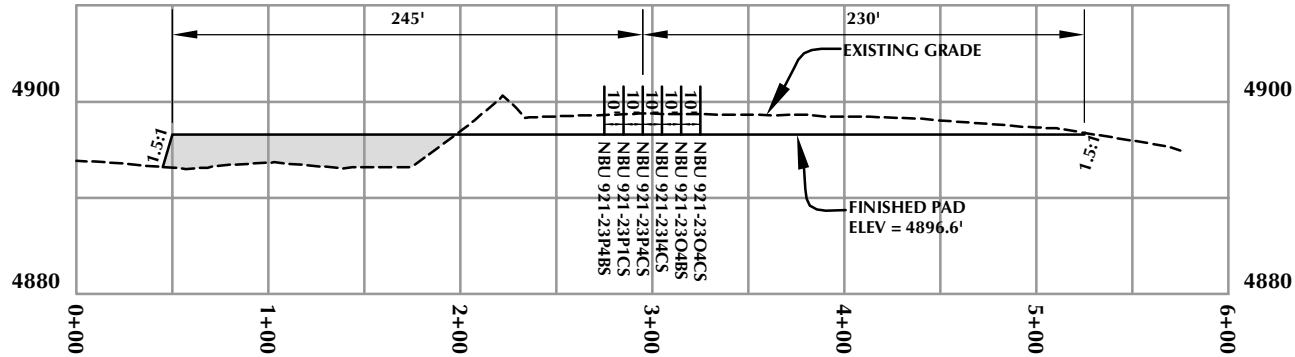


HORIZONTAL 0 30' 60' 1" = 60'  
2' CONTOURS

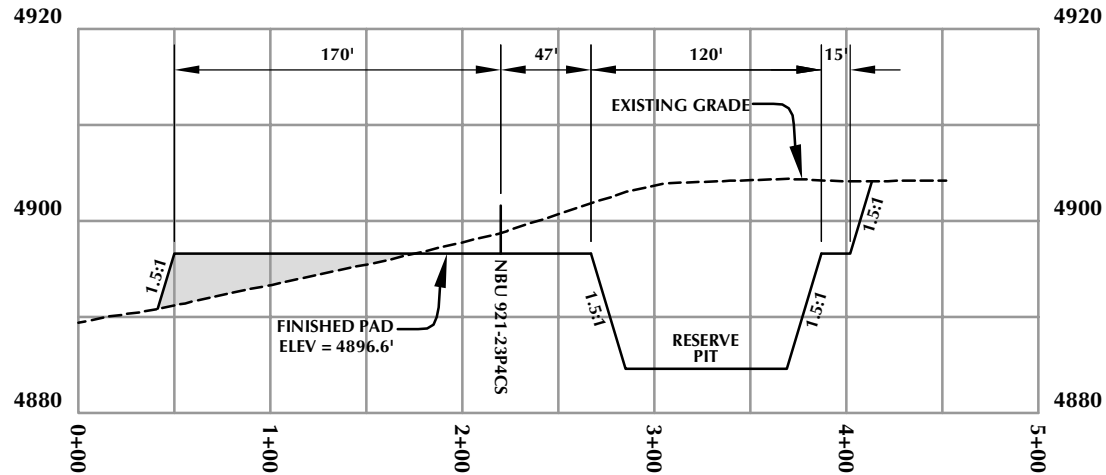
SCALE: 1"=60' DATE: 11/23/11 SHEET NO:  
REVISED: 8B 8B OF 18

TIMBERLINE  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-23P**

**WELL PAD - CROSS SECTIONS**  
NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

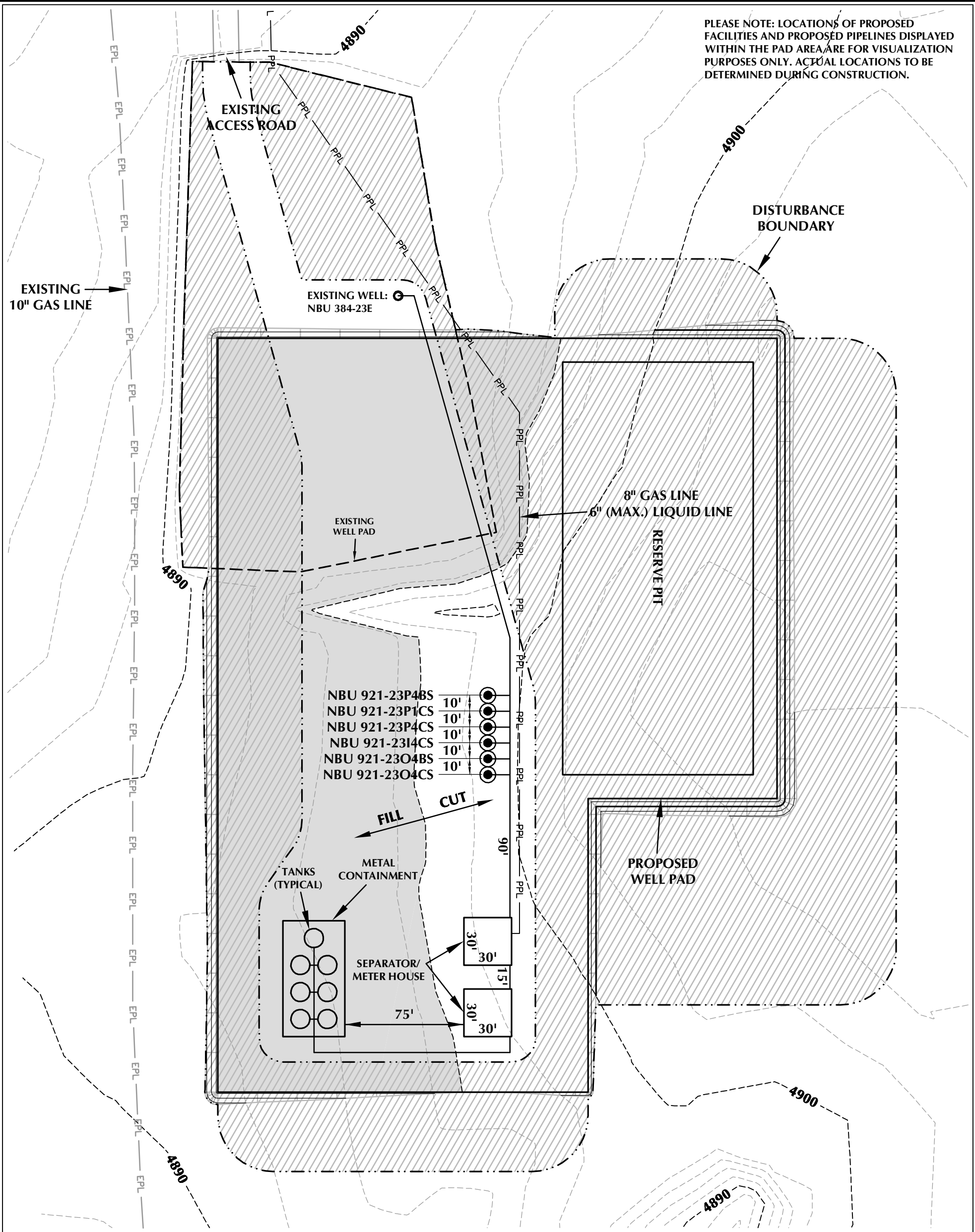
**TIMBERLINE**  
**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

**HORIZONTAL** 0 50' 100' 1" = 100'  
**VERTICAL** 0 10' 20' 1" = 20'

Scale: 1"=100'	Date: 9/9/11	SHEET NO:
REVISED:		<b>9</b> 9 OF 18

**RECEIVED: May 22, 2012**



WELL PAD - NBU 921-23P DESIGN SUMMARY

TOTAL DISTURBANCE AREA = 5.54 ACRES (INCLUDING EXISTING)  
RECLAMATION AREA = 3.88 ACRES  
TOTAL WELL PAD AREA AFTER RECLAMATION = 1.66 ACRES

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-23P

WELL PAD - RECLAMATION LAYOUT  
NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

TIMBERLINE  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL PROPOSED PIPELINE
- EPL EXISTING PIPELINE
- RECLAMATION AREA



0 30' 60' 1" = 60'  
HORIZONTAL  
2' CONTOURS

SCALE: 1"=60' DATE: 11/29/11 SHEET NO: 10 OF 18  
REVISED:

K:\ANDRKO\2011\2011\_42\_NBU\_FOGLS\_921-23\DWG\NBU\_921-23P.dwg, 11/29/2011 2:38:17 PM, gerty

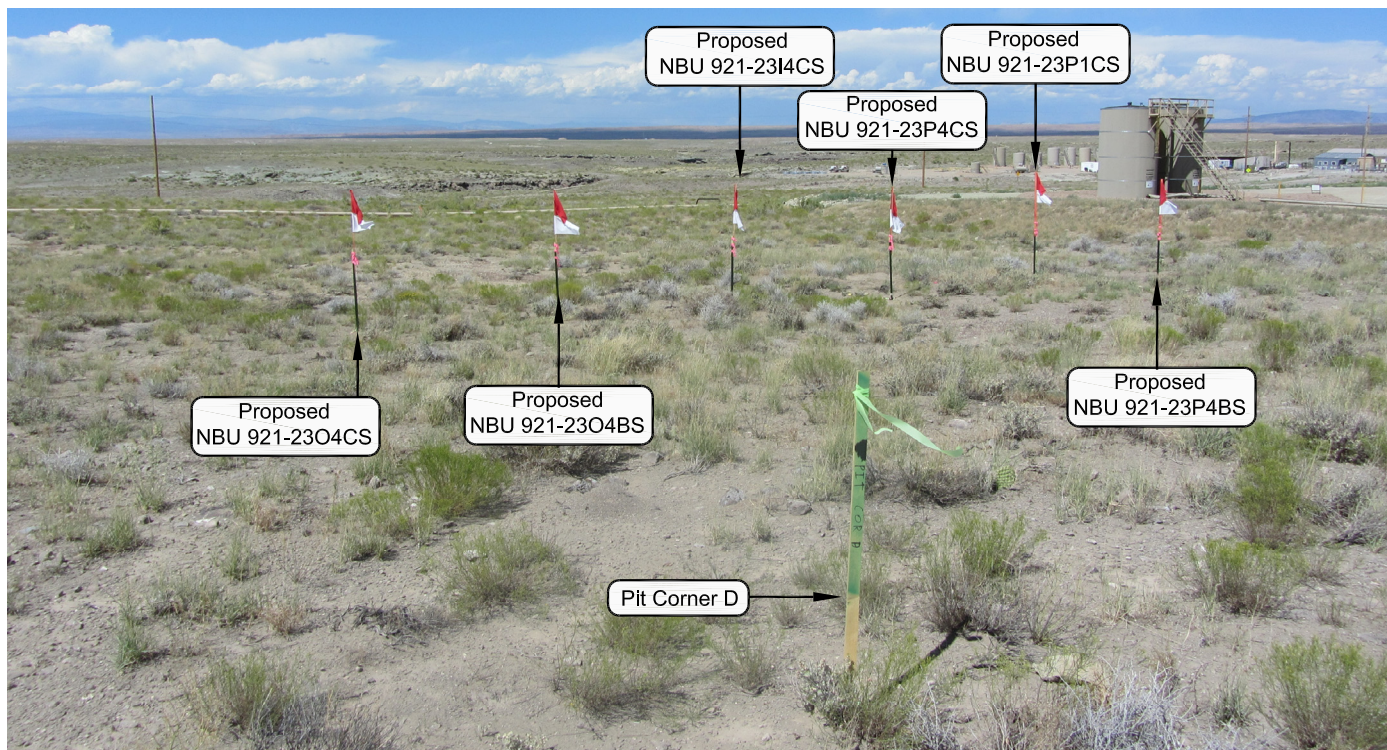


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHERLY

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-23P**

**LOCATION PHOTOS**  
NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH.



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

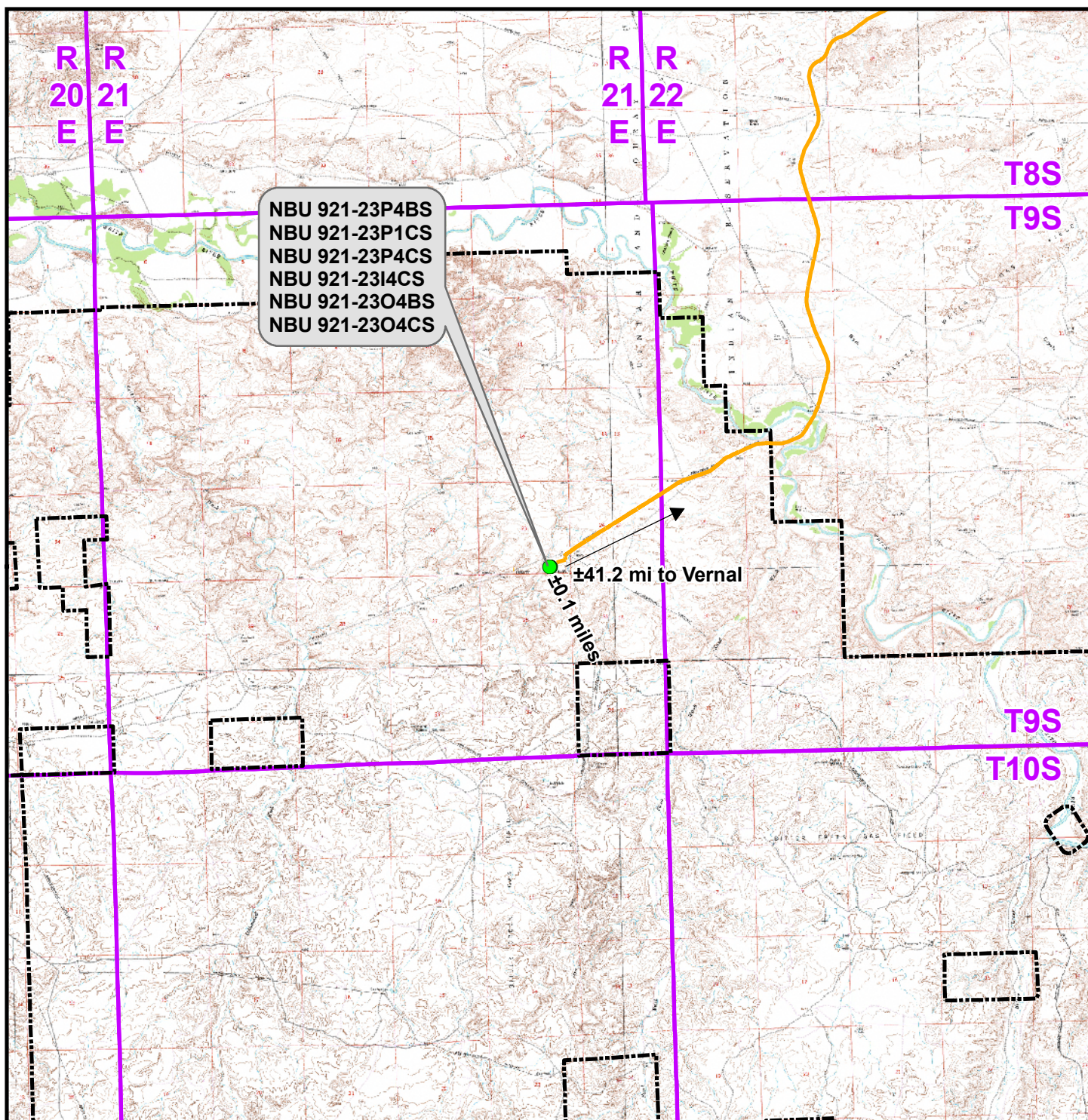
**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: W.W.	SHEET NO: <b>11</b> 11 OF 18
DATE DRAWN: 8-19-11	DRAWN BY: T.J.R.	
Date Last Revised:		

RECEIVED: May 22, 2012

**Legend**

- Proposed Well Location      Natural Buttes Unit Boundary  
— Access Route - Proposed

Distance From Well Pad - NBU 921-23P To Unit Boundary: ±5,800ft

**WELL PAD - NBU 921-23P****TOPO A**

NBU 921-23P4BS, NBU 921-23P1CS,  
 NBU 921-23P4CS, NBU 921-23I4CS,  
 NBU 921-23O4BS & NBU 921-23O4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
Gas Onshore L.P.**

1099 18th Street  
 Denver, Colorado 80202



**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182



SCALE: 1:100,000

DRAWN: TL

REVISED:

NAD83 USP Central

DATE: 9 Sept 2011

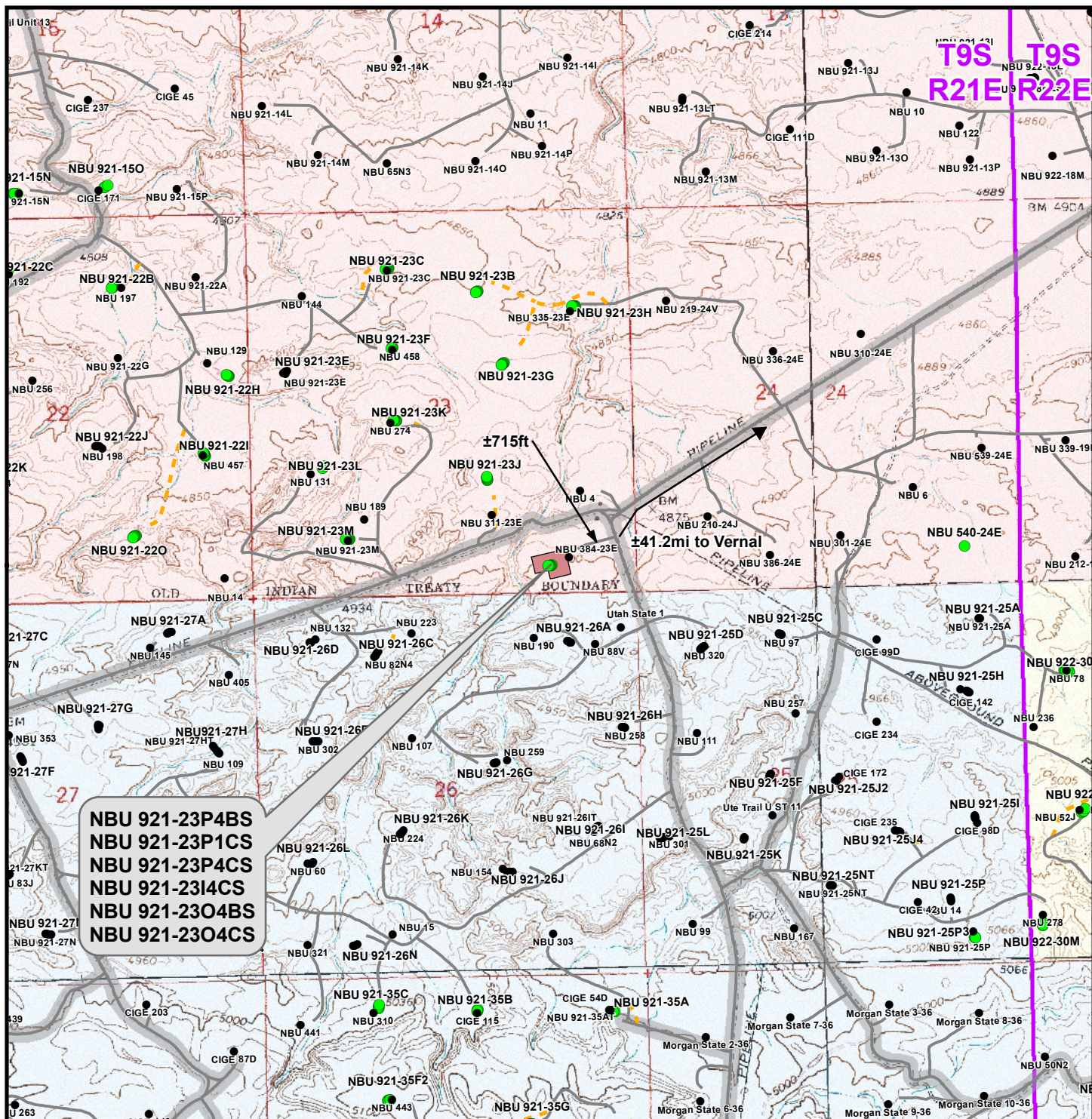
DATE:

SHEET NO:

**12**

12 OF 18

RECEIVED: May 22, 2012



### Legend

- |                   |            |                     |               |                             |           |
|-------------------|------------|---------------------|---------------|-----------------------------|-----------|
| ● Well - Proposed | ■ Well Pad | --- Road - Proposed | — County Road | ■ Bureau of Land Management | ■ State   |
| ● Well - Existing |            | — Road - Existing   |               | ■ Indian Reservation        | ■ Private |

Total Proposed Road Length: ±0ft

### WELL PAD - NBU 921-23P

#### TOPO B

NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH

### Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street  
Denver, Colorado 80202



#### CONSULTING, LLC

2155 North Main Street  
Sheridan, Wyoming 82801  
Phone 307-674-0609  
Fax 307-674-0182



SCALE: 1" = 2,000ft

DRAWN: TL

REVISED:

NAD83 USP Central

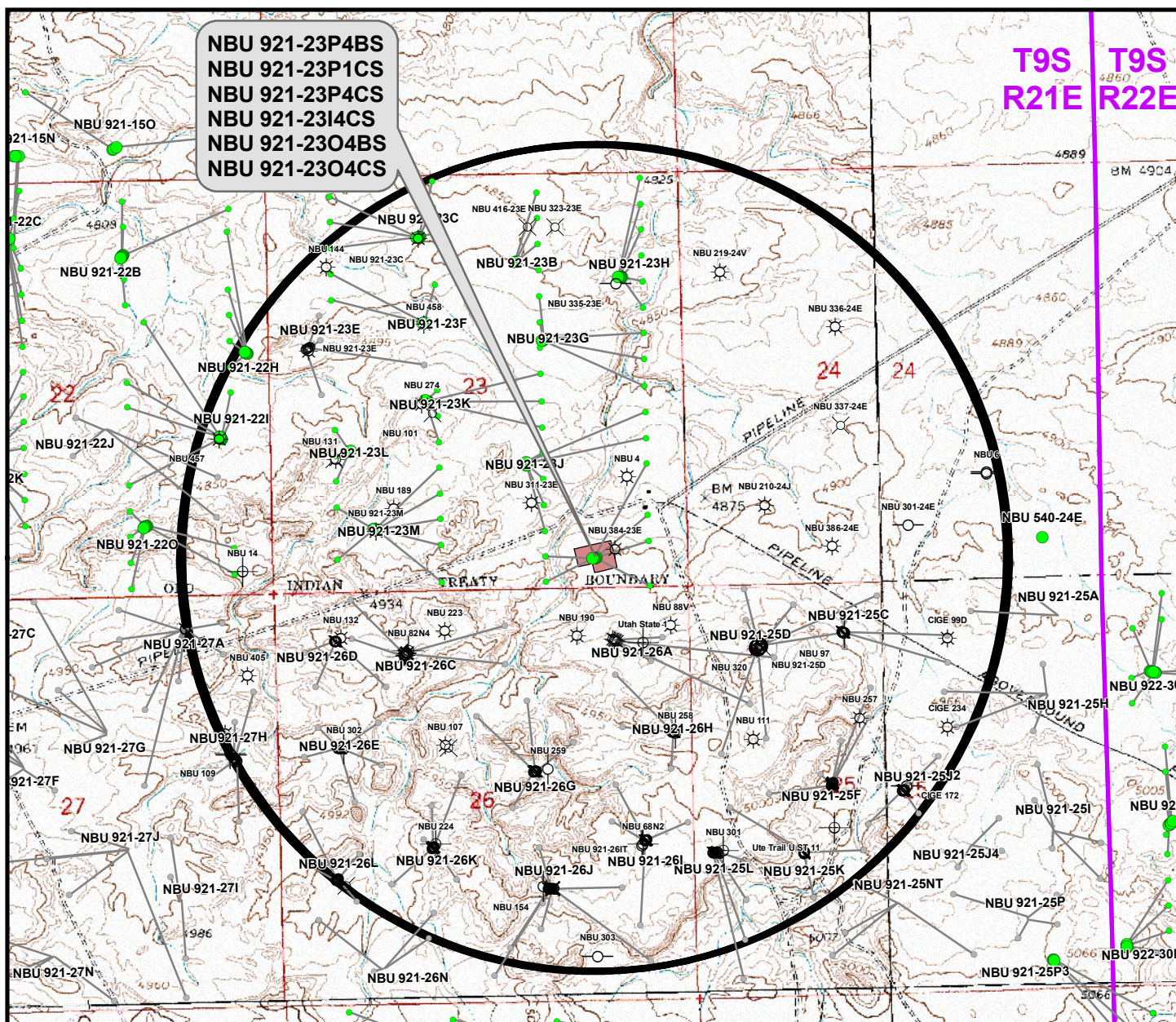
DATE: 9 Sept 2011

DATE:

SHEET NO:

13

13 OF 18



Well locations derived from Utah Division of Oil, Gas and Mining (UDOGM) (oilgas.ogm.utah.gov). The estimated distances from proposed bore locations to the nearest existing bore locations are based on UDOGM data.

Proposed Well	Nearest Well Bore	Footage
NBU 921-23P4BS	NBU 384-23E	445ft
NBU 921-23P1CS	NBU 4	557ft
NBU 921-23P4CS	NBU 88V	572ft
NBU 921-23I4CS	NBU 4	307ft
NBU 921-23O4BS	NBU 311-23E	703ft
NBU 921-23O4CS	NBU 190	795ft

### Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Well - 1 Mile Radius

- ☀ Producing
- ☺ Spudded
- APD Approved
- ⊗ Preliminary Location
- ⊕ Deferred
- ✕ Cancelled
- ⊖ Temporarily Abandoned
- ⊘ Location Abandoned
- ⊙ Shut-In
- ⚡ Active Injector
- ⊕ Plugged & Abandoned

### WELL PAD - NBU 921-23P

#### TOPO C

NBU 921-23P4BS, NBU 921-23P1CS,  
 NBU 921-23P4CS, NBU 921-23I4CS,  
 NBU 921-23O4BS & NBU 921-23O4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UTAH COUNTY, UTAH

### Kerr-McGee Oil & Gas Onshore L.P.

1099 18th Street  
 Denver, Colorado 80202



#### CONSULTING, LLC

2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

SCALE: 1" = 2,000ft

DRAWN: TL

REVISED:

NAD83 USP Central

DATE: 9 Sept 2011

DATE:

SHEET NO:

**14**

14 OF 18

Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Buried 6" (Max.)	(Meter House to Edge of Pad)	±390ft	Buried 8" (Meter House to Edge of Pad)		±390ft
Buried 6" (Max.)	(Edge of Pad to Existing Liquid Pipeline)	±2,030ft	Buried 8" (Edge of Pad to Proposed 16" Pipeline ROW In Progress)		±1,540ft
TOTAL PROPOSED BURIED LIQUID PIPELINE =		±2,420ft	TOTAL PROPOSED BURIED GAS PIPELINE =		±1,930ft

 Well - Proposed   
  Gas Pipeline - Proposed   
  Liquid Pipeline - Proposed   
  Road - Proposed   
  Bureau of Land Management   
  State

 Well - Existing   
  Gas Pipeline - To Be Upgraded   
  Liquid Pipeline - Existing   
  Road - Existing   
  Indian Reservation   
  Private

 Well Pad   
  Gas Pipeline - Existing

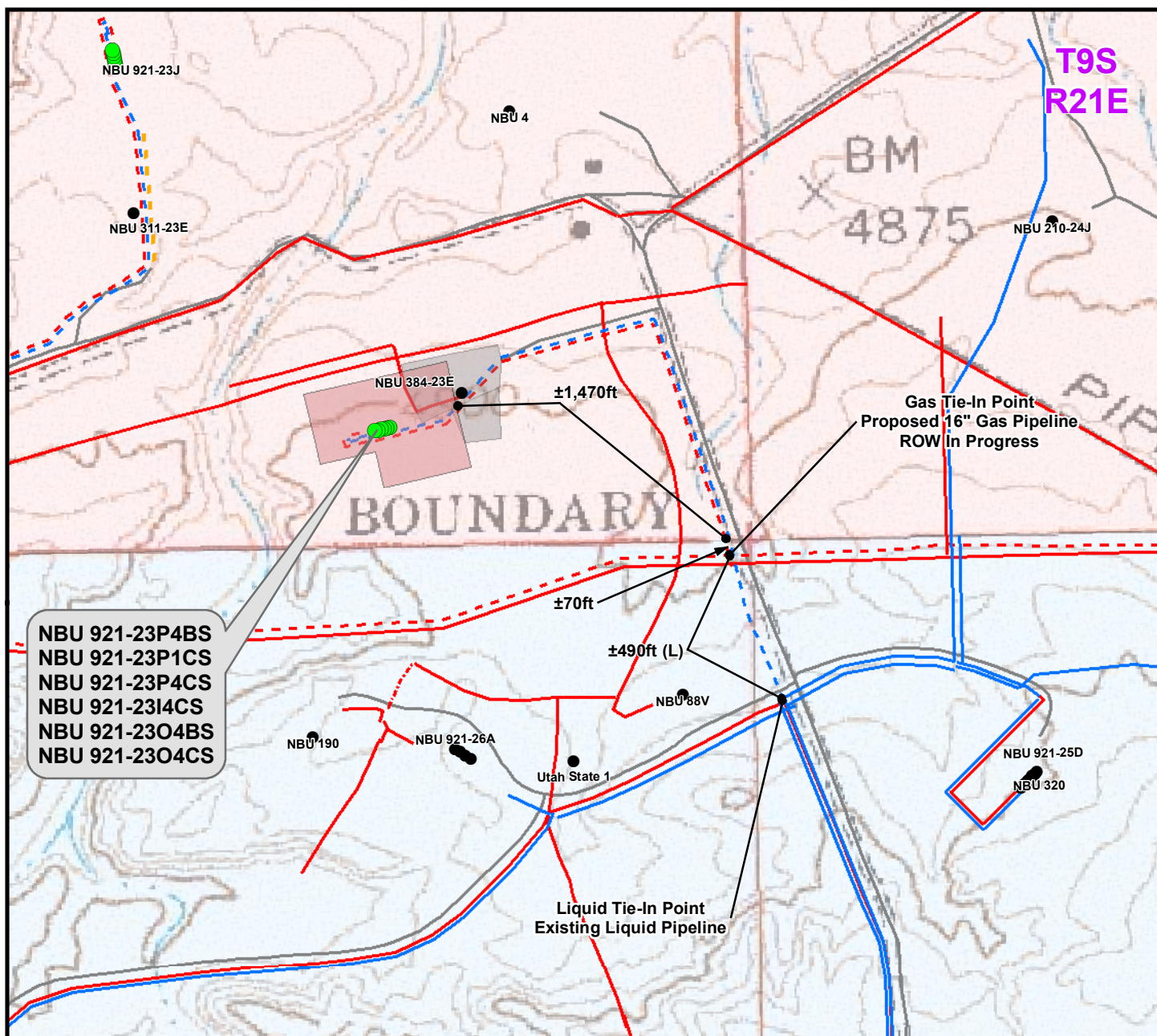
**TOPO D**  
**NBU 921-23P4BS, NBU 921-23P1CS,**  
**NBU 921-23P4CS, NBU 921-23I4CS,**  
**NBU 921-23O4BS & NBU 921-23O4CS**  
**LOCATED IN SECTION 23, T9S, R21E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

**1099 18th Street  
Denver, Colorado 80202**



2155 North Main Street  
Sheridan, Wyoming 82801  
Phone 307-674-0609  
Fax 307-674-0182

SCALE: 1" = 2,000ft	NAD83 USP Central	SHEET NO: <div style="font-size: 2em; font-weight: bold;">15</div> 15 OF 18
DRAWN: TL	DATE: 9 Sept 2011	
REVISED:	DATE:	



Proposed Liquid Pipeline	Length
Buried 6" (Max.) (Meter House to Edge of Pad)	±390ft
Buried 6" (Max.) (Edge of Pad to Existing Liquid Pipeline)	±2,030ft
<b>TOTAL PROPOSED BURIED LIQUID PIPELINE =</b>	<b>±2,420ft</b>

Proposed Gas Pipeline	Length
Buried 8" (Meter House to Edge of Pad)	±390ft
Buried 8" (Edge of Pad to Proposed 16" Pipeline ROW In Progress)	±1,540ft
<b>TOTAL PROPOSED BURIED GAS PIPELINE =</b>	<b>±1,930ft</b>

**Legend**

● Well - Proposed	■ Well Pad - Proposed	- - - Gas Pipeline - Proposed	- - - Liquid Pipeline - Proposed	- - - Road - Proposed	■ Bureau of Land Management
● Well - Existing	■ Well Pad - Existing	- - - Gas Pipeline - To Be Upgraded	- - - Liquid Pipeline - Existing	- - - Road - Existing	■ Indian Reservation
		- - - Gas Pipeline - Existing			■ State
					■ Private

**WELL PAD - NBU 921-23P**

TOPO D2 (PAD & PIPELINE DETAIL)  
 NBU 921-23P4BS, NBU 921-23P1CS,  
 NBU 921-23P4CS, NBU 921-23I4CS,  
 NBU 921-23O4BS & NBU 921-23O4CS  
 LOCATED IN SECTION 23, T9S, R21E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**Kerr-McGee Oil &  
 Gas Onshore L.P.**

1099 18th Street  
 Denver, Colorado 80202



**CONSULTING, LLC**

2155 North Main Street  
 Sheridan, Wyoming 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

SCALE: 1" = 500ft

DRAWN: TL

REVISED:

NAD83 USP Central

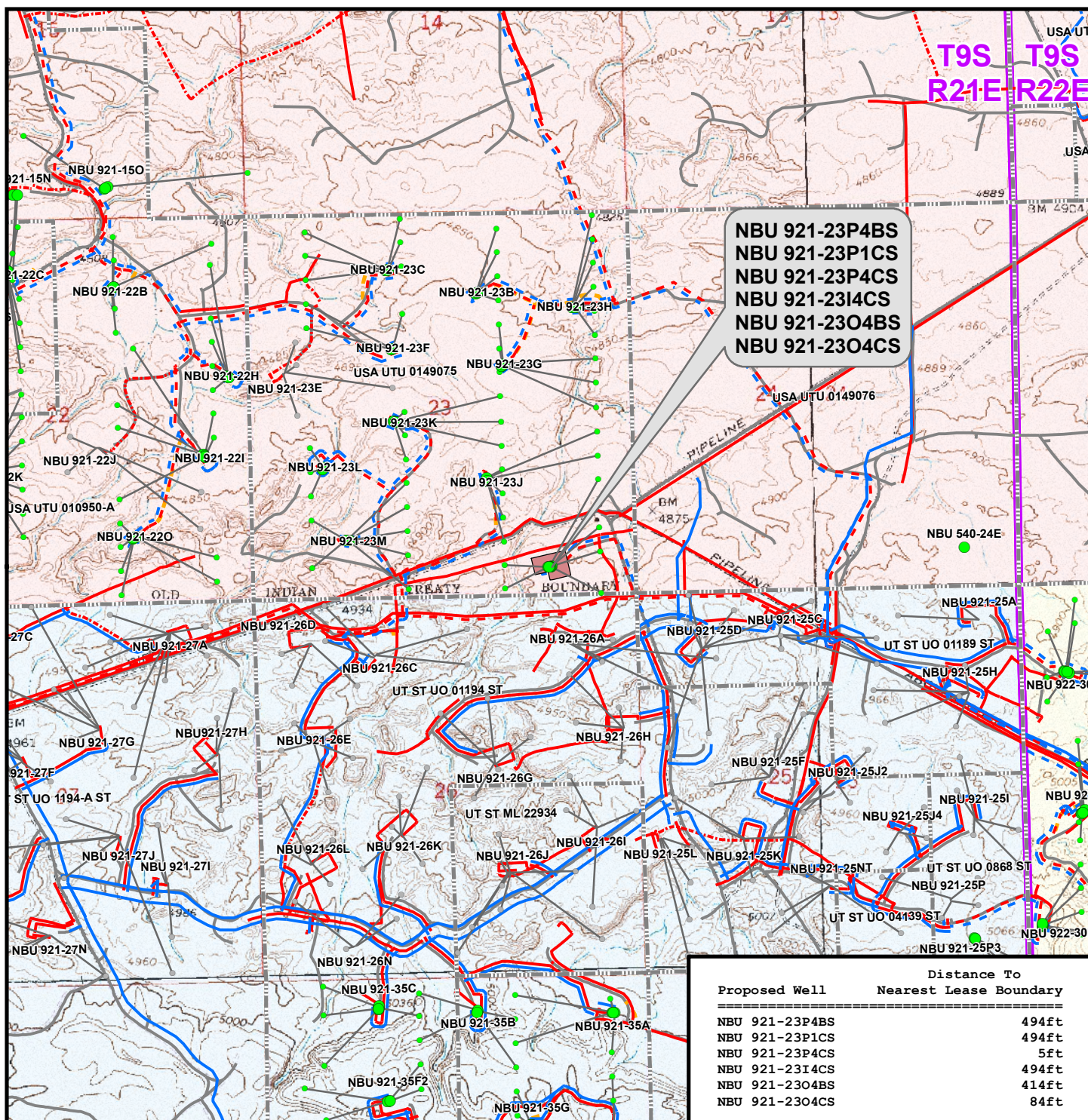
DATE: 9 Sept 2011

DATE:

SHEET NO:

**16**

16 OF 18



## Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- ▬ Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

## WELL PAD - NBU 921-23P

## TOPO E

NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
LOCATED IN SECTION 23, T9S, R21E,  
S.L.B.&M., UTAH COUNTY, UTAH

Kerr-McGee Oil &  
Gas Onshore L.P.

1099 18th Street  
Denver, Colorado 80202



## CONSULTING, LLC

2155 North Main Street  
Sheridan, Wyoming 82801  
Phone 307-674-0609  
Fax 307-674-0182

SCALE: 1" = 2,000ft

DRAWN: TL

REVISED:

NAD83 USP Central

DATE: 9 Sept 2011

DATE:

SHEET NO:

17

17 OF 18

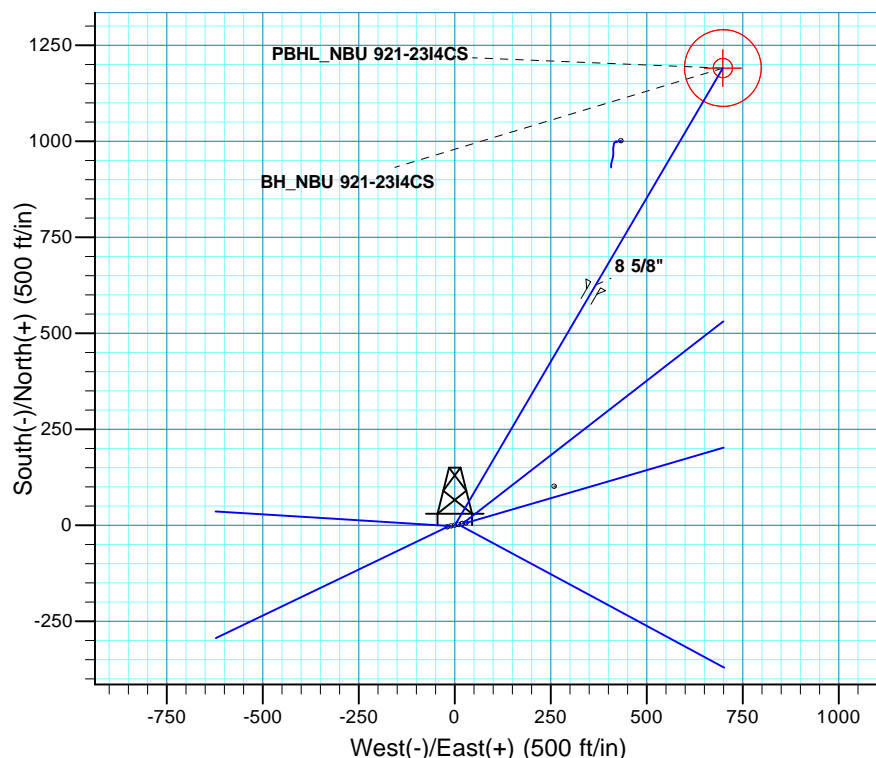
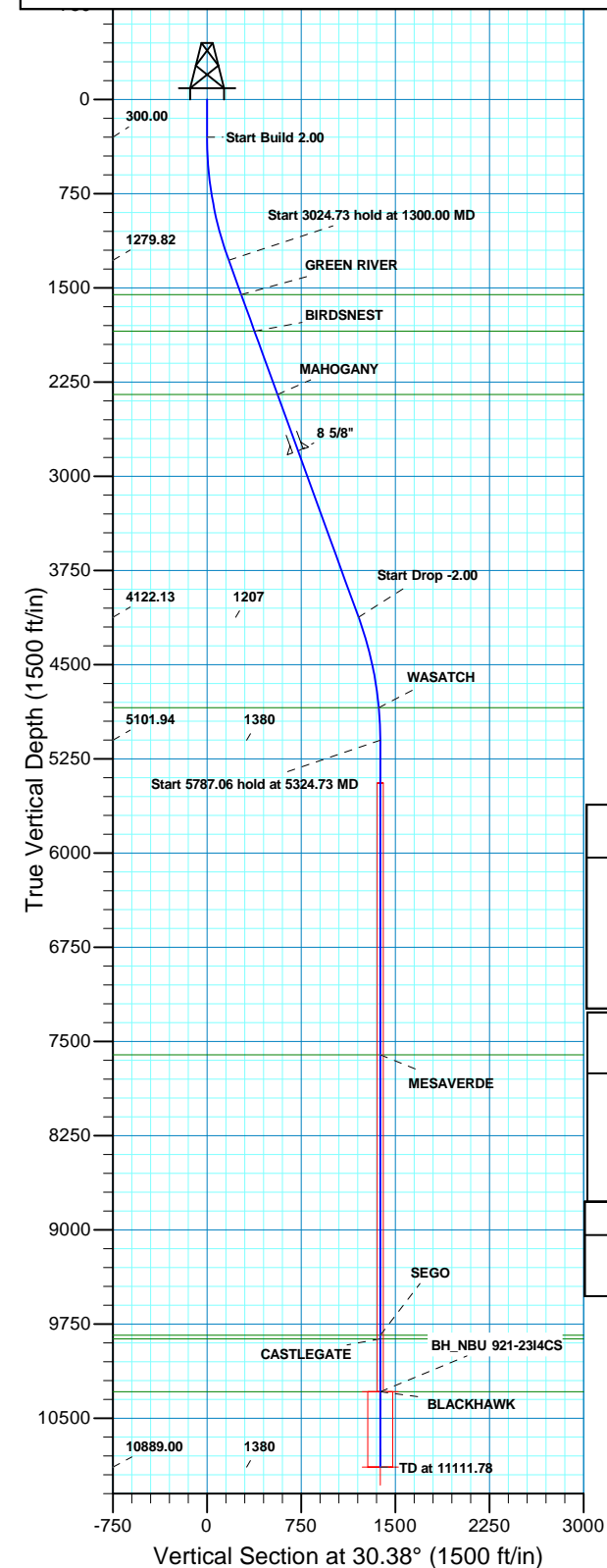
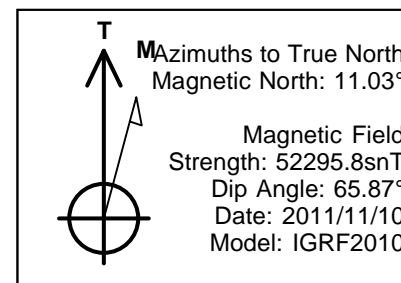
**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD - NBU 921-23P  
WELLS - NBU 921-23P4BS, NBU 921-23P1CS,  
NBU 921-23P4CS, NBU 921-23I4CS,  
NBU 921-23O4BS & NBU 921-23O4CS  
Section 23, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a service road to the Southwest. Exit right and proceed in a southwesterly direction approximately 715 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 41.3 miles in a southerly direction.

WELL DETAILS: NBU 921-2314CS					
GL 4897 & KB 4 @ 4901.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14535090.02	2056752.28	40° 0' 55.084 N	109° 30' 47.138 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude Longitude Shape
BH	10289.00	1190.61	697.86	14536292.11	2057430.17	40° 1' 6.852 N 09° 30' 38.167 W Circle (Radius: 25.00)
- plan hits target center						
PBHL	10889.00	1190.61	697.86	14536292.11	2057430.17	40° 1' 6.852 N 09° 30' 38.167 W Circle (Radius: 100.00)
- plan hits target center						



SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00		
1300.00	20.00	30.38	1279.82	149.05	87.36	2.00	30.38	172.77		
4324.73	20.00	30.38	4122.13	1041.55	610.49	0.00	0.00	1207.28		
5324.73	0.00	0.00	5101.94	1190.61	697.86	2.00	180.00	1380.05		
11111.78	0.00	0.00	10889.00	1190.61	697.86	0.00	0.00	1380.05	PBHL_NBU 921-2314CS	

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N			FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 23 T9S R21E System Datum: Mean Sea Level			TVDPath	MDPath	Formation
			1555.00	1592.85	GREEN RIVER
			1845.00	1901.46	BIRDSNEST
			2349.00	2437.80	MAHOGANY
			4842.00	5064.42	WASATCH
			7607.00	7829.78	MESAVERDE
			9839.00	10061.78	SEGO
			9867.00	10089.78	CASTLEGATE
			10289.00	10511.78	BLACKHAWK

CASING DETAILS				
TVD	MD	Name	Size	
2799.00	2916.68	8 5/8"	8.625	

RECEIVED



# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**NBU 921-23P PAD**

**NBU 921-23I4CS**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**10 November, 2011**





# SDI Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23P PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23I4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-23P PAD, SECTION 23 T9S R21E			
<b>Site Position:</b>		<b>Northing:</b>	14,535,094.36 usft	<b>Latitude:</b> 40° 0' 55.123 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,056,771.81 usft	<b>Longitude:</b> 109° 30' 46.886 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.96 °

<b>Well</b>	NBU 921-23I4CS, 377 FSL 1195 FEL			
<b>Well Position</b>	<b>+N/-S</b>	-4.01 ft	<b>Northing:</b>	14,535,090.03 usft
	<b>+E/-W</b>	-19.60 ft	<b>Easting:</b>	2,056,752.27 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,897.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/11/10	11.03	65.87	52,296

<b>Design</b>	PLAN #1 PRELIMINARY			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	30.38

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	30.38	1,279.82	149.05	87.36	2.00	2.00	0.00	30.38	
4,324.73	20.00	30.38	4,122.13	1,041.55	610.49	0.00	0.00	0.00	0.00	
5,324.73	0.00	0.00	5,101.94	1,190.61	697.86	2.00	-2.00	0.00	180.00	
11,111.78	0.00	0.00	10,889.00	1,190.61	697.86	0.00	0.00	0.00	0.00	PBHL_NBU 921-23I4



**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23P PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23I4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
400.00	2.00	30.38	399.98	1.51	0.88	1.75	2.00	2.00	0.00
500.00	4.00	30.38	499.84	6.02	3.53	6.98	2.00	2.00	0.00
600.00	6.00	30.38	599.45	13.54	7.94	15.69	2.00	2.00	0.00
700.00	8.00	30.38	698.70	24.05	14.10	27.88	2.00	2.00	0.00
800.00	10.00	30.38	797.47	37.55	22.01	43.52	2.00	2.00	0.00
900.00	12.00	30.38	895.62	54.01	31.66	62.60	2.00	2.00	0.00
1,000.00	14.00	30.38	993.06	73.41	43.03	85.10	2.00	2.00	0.00
1,100.00	16.00	30.38	1,089.64	95.74	56.12	110.98	2.00	2.00	0.00
1,200.00	18.00	30.38	1,185.27	120.97	70.90	140.21	2.00	2.00	0.00
1,300.00	20.00	30.38	1,279.82	149.05	87.36	172.77	2.00	2.00	0.00
<b>Start 3024.73 hold at 1300.00 MD</b>									
1,400.00	20.00	30.38	1,373.78	178.56	104.66	206.97	0.00	0.00	0.00
1,500.00	20.00	30.38	1,467.75	208.06	121.95	241.17	0.00	0.00	0.00
1,592.85	20.00	30.38	1,555.00	235.46	138.01	272.93	0.00	0.00	0.00
<b>GREEN RIVER</b>									
1,600.00	20.00	30.38	1,561.72	237.57	139.25	275.37	0.00	0.00	0.00
1,700.00	20.00	30.38	1,655.69	267.08	156.54	309.58	0.00	0.00	0.00
1,800.00	20.00	30.38	1,749.66	296.59	173.84	343.78	0.00	0.00	0.00
1,900.00	20.00	30.38	1,843.63	326.09	191.13	377.98	0.00	0.00	0.00
1,901.46	20.00	30.38	1,845.00	326.52	191.39	378.48	0.00	0.00	0.00
<b>BIRDSNEST</b>									
2,000.00	20.00	30.38	1,937.60	355.60	208.43	412.18	0.00	0.00	0.00
2,100.00	20.00	30.38	2,031.57	385.11	225.72	446.38	0.00	0.00	0.00
2,200.00	20.00	30.38	2,125.54	414.61	243.02	480.59	0.00	0.00	0.00
2,300.00	20.00	30.38	2,219.51	444.12	260.31	514.79	0.00	0.00	0.00
2,400.00	20.00	30.38	2,313.48	473.63	277.61	548.99	0.00	0.00	0.00
2,437.80	20.00	30.38	2,349.00	484.78	284.15	561.92	0.00	0.00	0.00
<b>MAHOOGANY</b>									
2,500.00	20.00	30.38	2,407.45	503.13	294.91	583.19	0.00	0.00	0.00
2,600.00	20.00	30.38	2,501.42	532.64	312.20	617.39	0.00	0.00	0.00
2,700.00	20.00	30.38	2,595.39	562.15	329.50	651.60	0.00	0.00	0.00
2,800.00	20.00	30.38	2,689.35	591.66	346.79	685.80	0.00	0.00	0.00
2,900.00	20.00	30.38	2,783.32	621.16	364.09	720.00	0.00	0.00	0.00
2,916.68	20.00	30.38	2,799.00	626.08	366.97	725.71	0.00	0.00	0.00
<b>8 5/8"</b>									
3,000.00	20.00	30.38	2,877.29	650.67	381.38	754.20	0.00	0.00	0.00
3,100.00	20.00	30.38	2,971.26	680.18	398.68	788.40	0.00	0.00	0.00
3,200.00	20.00	30.38	3,065.23	709.68	415.97	822.61	0.00	0.00	0.00
3,300.00	20.00	30.38	3,159.20	739.19	433.27	856.81	0.00	0.00	0.00
3,400.00	20.00	30.38	3,253.17	768.70	450.56	891.01	0.00	0.00	0.00
3,500.00	20.00	30.38	3,347.14	798.20	467.86	925.21	0.00	0.00	0.00
3,600.00	20.00	30.38	3,441.11	827.71	485.15	959.41	0.00	0.00	0.00
3,700.00	20.00	30.38	3,535.08	857.22	502.45	993.62	0.00	0.00	0.00
3,800.00	20.00	30.38	3,629.05	886.72	519.74	1,027.82	0.00	0.00	0.00
3,900.00	20.00	30.38	3,723.02	916.23	537.04	1,062.02	0.00	0.00	0.00
4,000.00	20.00	30.38	3,816.99	945.74	554.33	1,096.22	0.00	0.00	0.00
4,100.00	20.00	30.38	3,910.95	975.25	571.63	1,130.42	0.00	0.00	0.00
4,200.00	20.00	30.38	4,004.92	1,004.75	588.92	1,164.63	0.00	0.00	0.00



**SDI**  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23P PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23I4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,300.00	20.00	30.38	4,098.89	1,034.26	606.22	1,198.83	0.00	0.00	0.00	
4,324.73	20.00	30.38	4,122.13	1,041.55	610.49	1,207.28	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
4,400.00	18.49	30.38	4,193.19	1,062.96	623.04	1,232.10	2.00	-2.00	0.00	
4,500.00	16.49	30.38	4,288.56	1,088.89	638.24	1,262.16	2.00	-2.00	0.00	
4,600.00	14.49	30.38	4,384.92	1,111.94	651.75	1,288.87	2.00	-2.00	0.00	
4,700.00	12.49	30.38	4,482.16	1,132.07	663.55	1,312.21	2.00	-2.00	0.00	
4,800.00	10.49	30.38	4,580.15	1,149.26	673.62	1,332.13	2.00	-2.00	0.00	
4,900.00	8.49	30.38	4,678.77	1,163.49	681.97	1,348.63	2.00	-2.00	0.00	
5,000.00	6.49	30.38	4,777.91	1,174.75	688.56	1,361.67	2.00	-2.00	0.00	
5,064.42	5.21	30.38	4,842.00	1,180.41	691.88	1,368.24	2.00	-2.00	0.00	
<b>WASATCH</b>										
5,100.00	4.49	30.38	4,877.45	1,183.01	693.40	1,371.24	2.00	-2.00	0.00	
5,200.00	2.49	30.38	4,977.26	1,188.26	696.48	1,377.34	2.00	-2.00	0.00	
5,300.00	0.49	30.38	5,077.22	1,190.51	697.80	1,379.95	2.00	-2.00	0.00	
5,324.73	0.00	0.00	5,101.94	1,190.61	697.86	1,380.05	2.00	-2.00	0.00	
<b>Start 5787.06 hold at 5324.73 MD</b>										
5,400.00	0.00	0.00	5,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,977.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,077.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,977.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,077.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
7,829.78	0.00	0.00	7,607.00	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
<b>MESAVERDE</b>										
7,900.00	0.00	0.00	7,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,977.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,077.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00	



# SDI Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23P PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23I4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
8,900.00	0.00	0.00	8,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,000.00	0.00	0.00	8,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,100.00	0.00	0.00	8,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,200.00	0.00	0.00	8,977.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,300.00	0.00	0.00	9,077.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,400.00	0.00	0.00	9,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,500.00	0.00	0.00	9,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,600.00	0.00	0.00	9,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,700.00	0.00	0.00	9,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,800.00	0.00	0.00	9,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
9,900.00	0.00	0.00	9,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,000.00	0.00	0.00	9,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,061.78	0.00	0.00	9,839.00	1,190.61	697.86	1,380.05	0.00	0.00	0.00
<b>SEGO</b>									
10,089.78	0.00	0.00	9,867.00	1,190.61	697.86	1,380.05	0.00	0.00	0.00
<b>CASTLEGATE</b>									
10,100.00	0.00	0.00	9,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,200.00	0.00	0.00	9,977.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,300.00	0.00	0.00	10,077.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,400.00	0.00	0.00	10,177.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,500.00	0.00	0.00	10,277.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,511.78	0.00	0.00	10,289.00	1,190.61	697.86	1,380.05	0.00	0.00	0.00
<b>BLACKHAWK - BH_NBU 921-23I4CS</b>									
10,600.00	0.00	0.00	10,377.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,700.00	0.00	0.00	10,477.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,800.00	0.00	0.00	10,577.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
10,900.00	0.00	0.00	10,677.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
11,000.00	0.00	0.00	10,777.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
11,100.00	0.00	0.00	10,877.22	1,190.61	697.86	1,380.05	0.00	0.00	0.00
11,111.78	0.00	0.00	10,889.00	1,190.61	697.86	1,380.05	0.00	0.00	0.00
<b>TD at 11111.78 - PBHL_NBU 921-23I4CS</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BH_NBU 921-23I4CS	0.00	0.00	10,289.00	1,190.61	697.86	14,536,292.11	2,057,430.16	40° 1' 6.852 N	109° 30' 38.167 W
- plan hits target center									
- Circle (radius 25.00)									
PBHL_NBU 921-23I4CS	0.00	0.00	10,889.00	1,190.61	697.86	14,536,292.11	2,057,430.16	40° 1' 6.852 N	109° 30' 38.167 W
- plan hits target center									
- Circle (radius 100.00)									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,916.68	2,799.00	8 5/8"	8.625	11.000



# SDI Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 4897 & KB 4 @ 4901.00ft (ASSUMED)
<b>Site:</b>	NBU 921-23P PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 921-23I4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,592.85	1,551.00	GREEN RIVER			
1,901.46	1,841.00	BIRDSNEST			
2,437.80	2,345.00	MAHOGANY			
5,064.42	4,838.00	WASATCH			
7,829.78	7,603.00	MESAVERDE			
10,061.78	9,835.00	SEGO			
10,089.78	9,863.00	CASTLEGATE			
10,511.78	10,285.00	BLACKHAWK			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	149.05	87.36	Start 3024.73 hold at 1300.00 MD
4,324.73	4,122.13	1,041.55	610.49	Start Drop -2.00
5,324.73	5,101.94	1,190.61	697.86	Start 5787.06 hold at 5324.73 MD
11,111.78	10,889.00	1,190.61	697.86	TD at 11111.78

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
 NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
 Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
 Surface Use Plan of Operations  
 1 of 12

## Kerr-McGee Oil & Gas Onshore. L.P.

### NBU 921-23P Pad

<u>API #</u>	<u>NBU 921-23I4CS</u>		
	Surface:	377 FSL / 1195 FEL	SESE Lot
	BHL:	1567 FSL / 494 FEL	NESE Lot
<u>API #</u>	<u>NBU 921-23O4BS</u>		
	Surface:	375 FSL / 1205 FEL	SESE Lot
	BHL:	414 FSL / 1818 FEL	SWSE Lot
<u>API #</u>	<u>NBU 921-23O4CS</u>		
	Surface:	373 FSL / 1215 FEL	SESE Lot
	BHL:	84 FSL / 1818 FEL	SWSE Lot
<u>API #</u>	<u>NBU 921-23P1CS</u>		
	Surface:	381 FSL / 1175 FEL	SESE Lot
	BHL:	907 FSL / 494 FEL	SESE Lot
<u>API #</u>	<u>NBU 921-23P4BS</u>		
	Surface:	383 FSL / 1166 FEL	SESE Lot
	BHL:	578 FSL / 494 FEL	SESE Lot
<u>API #</u>	<u>NBU 921-23P4CS</u>		
	Surface:	379 FSL / 1185 FEL	SESE Lot
	BHL:	5 FSL / 494 FEL	SESE Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- Bucky Secakuku (10/4/2011 only) - BIA;
- LeAllen Blackhair, Rainey Longhair - Ute Indian Tribe;
- Kelly Jo Jackson - Montgomery Archeological Consultants Inc.;
- Scott Carson - Smiling Lake Consulting;
- John Slauch, Mitch Batty - Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock - Kerr-McGee

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
2 of 12

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### **B. New or Reconstructed Access Roads:**

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
3 of 12

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

No new access road is proposed for this well pad - See Topo B.

**C. Location of Existing Wells:**

A) Refer to Topo Map C.

**D. Location of Existing and/or Proposed Facilities:**

This pad will expand the existing pad for the NBU 384-23E, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 10, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

**GAS GATHERING**

*Please refer to Topo D2- Pad and Pipeline Detail.*

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 1,930'$  and the individual segments are broken up as follows:

**The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe and to SITLA.**

$\pm 1,930'$  (0.4 miles) – Section 23 T9S R21E (SE/4) – On-lease UTU0149075 (Ute Indian Tribe) and UT ST UO 01194 (State), New 8" buried gas gathering pipeline from the meter to the proposed 16" gas pipeline- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

**LIQUID GATHERING**

*Please refer to Topo D2- Pad and Pipeline Detail.*

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 2,420'$  and the individual segments are broken up as follows:

**The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe and to SITLA.**

$\pm 2,420'$  (0.5 miles) – Section 23 T9S R21E (SE/4) – On-lease UTU0149075 (Ute Indian Tribe) and UT ST UO 01194 (State), New 6" buried liquid gathering pipeline from the meter to the existing liquid pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s), gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
5 of 12

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or its successor will consult with the Vernal BIA Office before terminating the use of the pipeline(s).

#### **The Anadarko Completions Transportation System (ACTS) information:**

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

NBU 921-2314CS/ 921-2304BS/ 921-2304CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
6 of 12

#### **E. Location and Types of Water Supply:**

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### **F. Construction Materials:**

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

#### **G. Methods for Handling Waste:**

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

NBU 921-2314CS/ 921-2304BS/ 921-2304CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
7 of 12

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
8 of 12

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E  
NBU #159 in Sec. 35 T9S R21E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E  
CIGE 112D SWD in Sec. 19 T9S R21E  
CIGE 114 SWD in Sec. 34 T9S R21E  
NBU 921-34K SWD in Sec. 34 T9S R21E  
NBU 921-33F SWD in Sec. 34 T9S R21E

#### **H. Ancillary Facilities:**

No additional ancillary facilities are planned for this location.

#### **I. Well Site Layout:**

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

#### **J. Plans for Surface Reclamation:**

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

**Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

**Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

**Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
 NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
 Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
 Surface Use Plan of Operations  
 10 of 12

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a “picker box” in order to seed “fluffy” seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for

re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain “cheat grass free seed”.

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
<b>Total</b>	<b>9.5</b>

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

#### **Weed Control**

Noxious weeds will be controlled in all project areas in accordance with all applicable rules and regulations.

#### **K. Surface/Mineral Ownership:**

Ute Indian Tribe	United States of America
P.O. Box 70	Bureau of Land Management
988 South 7500 East Annex Building	170 South 500 East
Fort Duchesne, UT 84026	Vernal, UT 84078
(435) 722-4307	(435) 781-4400

#### **L. Other Information:**

##### **Onsite Specifics:**

- Arch monitor during construction
- Paleo monitor during construction

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
 NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
 Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
 Surface Use Plan of Operations  
 11 of 12

### Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

### Resource Reports:

A Class I literature survey was completed in September, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-261.

A paleontological reconnaissance survey was completed on July 6, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-134.

Biological field survey was completed on August 23, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-584.

### Proposed Action Annual Emissions Tables:

<b>Table 1: Proposed Action Annual Emissions (tons/year)<sup>1</sup></b>			
<b>Pollutant</b>	<b>Development</b>	<b>Production</b>	<b>Total</b>
NO <sub>x</sub>	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO <sub>2</sub>	0.005	0.0043	0.0093
PM <sub>10</sub>	1.7	0.11	1.81
PM <sub>2.5</sub>	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

<sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

<b>Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison</b>			
<b>Species</b>	<b>Proposed Action Production Emissions (ton/yr)</b>	<b>2012 Uintah Basin Emission Inventory<sup>a</sup> (ton/yr)</b>	<b>Percentage of Proposed Action to WRAP Phase III</b>
NO <sub>x</sub>	23.52	16,547	0.14%
VOC	30	127,495	0.02%

<sup>a</sup> [http://www.wrapair.org/forums/ogwg/PhaseIII\\_Inventory.html](http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html)

Uintah Basin Data

NBU 921-23I4CS/ 921-23O4BS/ 921-23O4CS  
NBU 921-23P1CS/ 921-23P4BS/ 921-23P4CS  
Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-23P Pad  
Surface Use Plan of Operations  
12 of 12

**M. Lessee's or Operators' Representative & Certification:**

Laura Abrams  
Regulatory Analyst II  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6356

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
\_\_\_\_\_  
Laura Abrams

December 28, 2011  
\_\_\_\_\_  
Date



Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
DENVER, CO 80217-3779

October 10, 2011

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 921-23I4CS  
T9S-R21E  
Section 23 SESE (Surface), NESE (Bottom Hole)  
Surface: 377' FSL, 1195' FEL  
Bottom Hole: 1567' FSL, 494' FEL  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-23I4CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

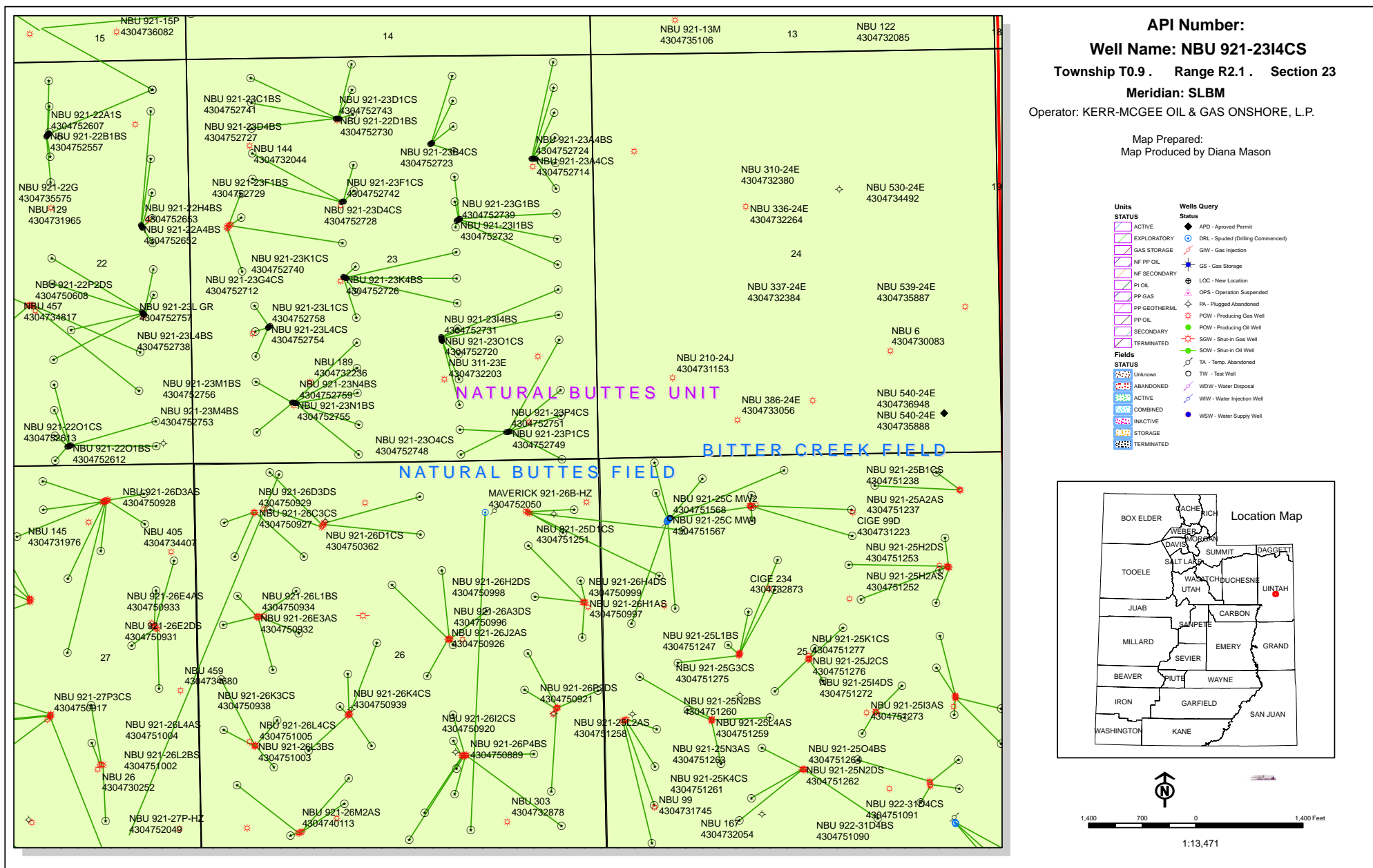
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'Joe Matney'.

Joe Matney  
Sr. Staff Landman



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

May 30, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2012 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2012 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>WELL PAD - NBU 922-32D1</b>		
43-047-52691	NBU 922-30P1BS	Sec 32 T09S R22E 0243 FNL 0813 FWL
	BHL	Sec 30 T09S R22E 1246 FSL 0525 FEL
43-047-52693	NBU 922-30P4BS	Sec 32 T09S R22E 0255 FNL 0797 FWL
	BHL	Sec 30 T09S R22E 0576 FSL 0601 FEL
43-047-52694	NBU 922-30P1CS	Sec 32 T09S R22E 0249 FNL 0805 FWL
	BHL	Sec 30 T09S R22E 0908 FSL 0574 FEL
43-047-52695	NBU 922-30P3DS	Sec 32 T09S R22E 0261 FNL 0789 FWL
	BHL	Sec 30 T09S R22E 0229 FSL 0778 FEL
<b>WELL PAD - NBU 921-23B</b>		
43-047-52696	NBU 921-23B1BS	Sec 23 T09S R21E 1133 FNL 2116 FEL
	BHL	Sec 23 T09S R21E 0247 FNL 1816 FEL
43-047-52706	NBU 921-23B4BS	Sec 23 T09S R21E 1124 FNL 2098 FEL
	BHL	Sec 23 T09S R21E 0907 FNL 1816 FEL
43-047-52716	NBU 921-23B1CS	Sec 23 T09S R21E 1128 FNL 2107 FEL
	BHL	Sec 23 T09S R21E 0577 FNL 1816 FEL
43-047-52723	NBU 921-23B4CS	Sec 23 T09S R21E 1137 FNL 2125 FEL
	BHL	Sec 23 T09S R21E 1238 FNL 1816 FEL
<b>WELL PAD - NBU 921-23G</b>		
43-047-52700	NBU 921-23G1CS	Sec 23 T09S R21E 2126 FNL 1774 FEL
	BHL	Sec 23 T09S R21E 1898 FNL 1817 FEL
43-047-52701	NBU 921-23G4BS	Sec 23 T09S R21E 2144 FNL 1799 FEL
	BHL	Sec 23 T09S R21E 2228 FNL 1817 FEL

RECEIVED: May 30, 2012

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-52702	NBU 921-23H4BS	Sec 23 T09S R21E 2115 FNL 1758 FEL
	BHL	Sec 23 T09S R21E 2061 FNL 0493 FEL
43-047-52703	NBU 921-23H4CS	Sec 23 T09S R21E 2132 FNL 1782 FEL
	BHL	Sec 23 T09S R21E 2391 FNL 0493 FEL
43-047-52732	NBU 921-23I1BS	Sec 23 T09S R21E 2138 FNL 1790 FEL
	BHL	Sec 23 T09S R21E 2556 FSL 0494 FEL
43-047-52739	NBU 921-23G1BS	Sec 23 T09S R21E 2120 FNL 1766 FEL
	BHL	Sec 23 T09S R21E 1568 FNL 1816 FEL
<b>WELL PAD - NBU 921-23H</b>		
43-047-52704	NBU 921-23H1CS	Sec 23 T09S R21E 1343 FNL 0762 FEL
	BHL	Sec 23 T09S R21E 1731 FNL 0493 FEL
43-047-52705	NBU 921-23A1BS	Sec 23 T09S R21E 1344 FNL 0802 FEL
	BHL	Sec 23 T09S R21E 0082 FNL 0493 FEL
43-047-52711	NBU 921-23H1BS	Sec 23 T09S R21E 1343 FNL 0752 FEL
	BHL	Sec 23 T09S R21E 1401 FNL 0493 FEL
43-047-52714	NBU 921-23A4CS	Sec 23 T09S R21E 1343 FNL 0772 FEL
	BHL	Sec 23 T09S R21E 1071 FNL 0493 FEL
43-047-52722	NBU 921-23A1CS	Sec 23 T09S R21E 1343 FNL 0792 FEL
	BHL	Sec 23 T09S R21E 0412 FNL 0493 FEL
43-047-52724	NBU 921-23A4BS	Sec 23 T09S R21E 1343 FNL 0782 FEL
	BHL	Sec 23 T09S R21E 0741 FNL 0493 FEL
<b>WELL PAD - NBU 921-23J</b>		
43-047-52707	NBU 921-23J4BS	Sec 23 T09S R21E 1628 FSL 2036 FEL
	BHL	Sec 23 T09S R21E 1734 FSL 1817 FEL
43-047-52713	NBU 921-23I1CS	Sec 23 T09S R21E 1618 FSL 2034 FEL
	BHL	Sec 23 T09S R21E 2227 FSL 0494 FEL
43-047-52717	NBU 921-23O1BS	Sec 23 T09S R21E 1589 FSL 2029 FEL
	BHL	Sec 23 T09S R21E 1074 FSL 1818 FEL
43-047-52719	NBU 921-23J4CS	Sec 23 T09S R21E 1599 FSL 2031 FEL
	BHL	Sec 23 T09S R21E 1404 FSL 1818 FEL
43-047-52720	NBU 921-23O1CS	Sec 23 T09S R21E 1579 FSL 2028 FEL
	BHL	Sec 23 T09S R21E 0743 FSL 1818 FEL
43-047-52731	NBU 921-23I4BS	Sec 23 T09S R21E 1608 FSL 2032 FEL
	BHL	Sec 23 T09S R21E 1897 FSL 0494 FEL
<b>WELL PAD - NBU 921-23K</b>		
43-047-52708	NBU 921-23K1BS	Sec 23 T09S R21E 2431 FSL 1995 FWL
	BHL	Sec 23 T09S R21E 2563 FSL 2147 FWL
43-047-52709	NBU 921-23J1BS	Sec 23 T09S R21E 2419 FSL 2022 FWL
	BHL	Sec 23 T09S R21E 2395 FSL 1817 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-52710	NBU 921-23J1CS	Sec 23 T09S R21E 2415 FSL 2032 FWL
	BHL	Sec 23 T09S R21E 2064 FSL 1817 FEL
43-047-52712	NBU 921-23G4CS	Sec 23 T09S R21E 2423 FSL 2013 FWL
	BHL	Sec 23 T09S R21E 2559 FNL 1817 FEL
43-047-52726	NBU 921-23K4BS	Sec 23 T09S R21E 2435 FSL 1986 FWL
	BHL	Sec 23 T09S R21E 1901 FSL 2148 FWL
43-047-52740	NBU 921-23K1CS	Sec 23 T09S R21E 2427 FSL 2004 FWL
	BHL	Sec 23 T09S R21E 2232 FSL 2147 FWL
<b>WELL PAD - NBU 921-23C</b>		
43-047-52715	NBU 921-23C1CS	Sec 23 T09S R21E 0790 FNL 1963 FWL
	BHL	Sec 23 T09S R21E 0413 FNL 2145 FWL
43-047-52725	NBU 921-23C4BS	Sec 23 T09S R21E 0789 FNL 1973 FWL
	BHL	Sec 23 T09S R21E 0743 FNL 2145 FWL
43-047-52727	NBU 921-23D4BS	Sec 23 T09S R21E 0794 FNL 1924 FWL
	BHL	Sec 23 T09S R21E 0910 FNL 0823 FWL
43-047-52730	NBU 921-23D1BS	Sec 23 T09S R21E 0792 FNL 1944 FWL
	BHL	Sec 23 T09S R21E 0249 FNL 0823 FWL
43-047-52741	NBU 921-23C1BS	Sec 23 T09S R21E 0791 FNL 1954 FWL
	BHL	Sec 23 T09S R21E 0083 FNL 2145 FWL
43-047-52743	NBU 921-23D1CS	Sec 23 T09S R21E 0793 FNL 1934 FWL
	BHL	Sec 23 T09S R21E 0579 FNL 0823 FWL
<b>WELL PAD - NBU 921-23F</b>		
43-047-52721	NBU 921-23E1BS	Sec 23 T09S R21E 1888 FNL 1982 FWL
	BHL	Sec 23 T09S R21E 1572 FNL 0823 FWL
43-047-52728	NBU 921-23D4CS	Sec 23 T09S R21E 1885 FNL 1992 FWL
	BHL	Sec 23 T09S R21E 1241 FNL 0823 FWL
43-047-52729	NBU 921-23F1BS	Sec 23 T09S R21E 1882 FNL 2002 FWL
	BHL	Sec 23 T09S R21E 1405 FNL 2146 FWL
43-047-52742	NBU 921-23F1CS	Sec 23 T09S R21E 1879 FNL 2011 FWL
	BHL	Sec 23 T09S R21E 1735 FNL 2146 FWL
<b>WELL PAD - NBU 921-23L</b>		
43-047-52738	NBU 921-23L4BS	Sec 23 T09S R21E 1782 FSL 0991 FWL
	BHL	Sec 23 T09S R21E 1739 FSL 0824 FWL
43-047-52754	NBU 921-23L4CS	Sec 23 T09S R21E 1788 FSL 0999 FWL
	BHL	Sec 23 T09S R21E 1408 FSL 0824 FWL
43-047-52758	NBU 921-23L1CS	Sec 23 T09S R21E 1794 FSL 1007 FWL
	BHL	Sec 23 T09S R21E 2070 FSL 0824 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>WELL PAD - NBU 921-23P</b>		
43-047-52744	NBU 921-23P4BS	Sec 23 T09S R21E 0383 FSL 1166 FEL
	BHL	Sec 23 T09S R21E 0578 FSL 0494 FEL
43-047-52746	NBU 921-23O4BS	Sec 23 T09S R21E 0375 FSL 1205 FEL
	BHL	Sec 23 T09S R21E 0414 FSL 1818 FEL
43-047-52747	NBU 921-23I4CS	Sec 23 T09S R21E 0377 FSL 1195 FEL
	BHL	Sec 23 T09S R21E 1567 FSL 0494 FEL
43-047-52748	NBU 921-23O4CS	Sec 23 T09S R21E 0373 FSL 1215 FEL
	BHL	Sec 23 T09S R21E 0084 FSL 1818 FEL
43-047-52749	NBU 921-23P1CS	Sec 23 T09S R21E 0381 FSL 1175 FEL
	BHL	Sec 23 T09S R21E 0907 FSL 0494 FEL
43-047-52751	NBU 921-23P4CS	Sec 23 T09S R21E 0379 FSL 1185 FEL
	BHL	Sec 23 T09S R21E 0005 FSL 0494 FEL
<b>WELL PAD - NBU 921-23M</b>		
43-047-52745	NBU 921-23N4CS	Sec 23 T09S R21E 0791 FSL 1329 FWL
	BHL	Sec 23 T09S R21E 0105 FSL 2149 FWL
43-047-52750	NBU 921-23N1CS	Sec 23 T09S R21E 0790 FSL 1339 FWL
	BHL	Sec 23 T09S R21E 0910 FSL 2148 FWL
43-047-52752	NBU 921-23K4CS	Sec 23 T09S R21E 0794 FSL 1310 FWL
	BHL	Sec 23 T09S R21E 1571 FSL 2148 FWL
43-047-52753	NBU 921-23M4BS	Sec 23 T09S R21E 0795 FSL 1300 FWL
	BHL	Sec 23 T09S R21E 0415 FSL 0824 FWL
43-047-52755	NBU 921-23N1BS	Sec 23 T09S R21E 0792 FSL 1319 FWL
	BHL	Sec 23 T09S R21E 1240 FSL 2148 FWL
43-047-52756	NBU 921-23M1BS	Sec 23 T09S R21E 0796 FSL 1290 FWL
	BHL	Sec 23 T09S R21E 1077 FSL 0824 FWL
43-047-52759	NBU 921-23N4BS	Sec 23 T09S R21E 0788 FSL 1349 FWL
	BHL	Sec 23 T09S R21E 0495 FSL 2158 FWL

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
 DN: cn=Michael L. Coulthard, o=Bureau of Land Management,  
 ou=Branch of Minerals, email=Michael\_Coulthard@blm.gov, c=US  
 Date: 2012.05.30 10:20:35 -0600

RECEIVED: May 30, 2012

API Well Number: 43047527470000

bcc: File - Natural Buttes Unit

Division of Oil Gas and Mining

Central Files

Agr. Sec. Chron

Fluid Chron

MCoulthard:mc:5-30-12

RECEIVED: May 30, 2012

API	Well Name	Surface Location
43-047-52691	NBU 922-30P1BS	Sec 32 T09S R22E 0243 FNL 0813 FWL
43-047-52693	NBU 922-30P4BS	Sec 32 T09S R22E 0255 FNL 0797 FWL
43-047-52694	NBU 922-30P1CS	Sec 32 T09S R22E 0249 FNL 0805 FWL
43-047-52695	NBU 922-30P3DS	Sec 32 T09S R22E 0261 FNL 0789 FWL
43-047-52696	NBU 921-23B1BS	Sec 23 T09S R21E 1133 FNL 2116 FEL
43-047-52700	NBU 921-23G1CS	Sec 23 T09S R21E 2126 FNL 1774 FEL
43-047-52701	NBU 921-23G4BS	Sec 23 T09S R21E 2144 FNL 1799 FEL
43-047-52702	NBU 921-23H4BS	Sec 23 T09S R21E 2115 FNL 1758 FEL
43-047-52703	NBU 921-23H4CS	Sec 23 T09S R21E 2132 FNL 1782 FEL
43-047-52704	NBU 921-23H1CS	Sec 23 T09S R21E 1343 FNL 0762 FEL
43-047-52705	NBU 921-23A1BS	Sec 23 T09S R21E 1344 FNL 0802 FEL
43-047-52706	NBU 921-23B4BS	Sec 23 T09S R21E 1124 FNL 2098 FEL
43-047-52707	NBU 921-23J4BS	Sec 23 T09S R21E 1628 FSL 2036 FEL
43-047-52708	NBU 921-23K1BS	Sec 23 T09S R21E 2431 FSL 1995 FWL
43-047-52709	NBU 921-23J1BS	Sec 23 T09S R21E 2419 FSL 2022 FWL
43-047-52710	NBU 921-23J1CS	Sec 23 T09S R21E 2415 FSL 2032 FWL
43-047-52711	NBU 921-23H1BS	Sec 23 T09S R21E 1343 FNL 0752 FEL
43-047-52712	NBU 921-23G4CS	Sec 23 T09S R21E 2423 FSL 2013 FWL
43-047-52713	NBU 921-23I1CS	Sec 23 T09S R21E 1618 FSL 2034 FEL
43-047-52714	NBU 921-23A4CS	Sec 23 T09S R21E 1343 FNL 0772 FEL
43-047-52715	NBU 921-23C1CS	Sec 23 T09S R21E 0790 FNL 1963 FWL
43-047-52716	NBU 921-23B1CS	Sec 23 T09S R21E 1128 FNL 2107 FEL
43-047-52717	NBU 921-23O1BS	Sec 23 T09S R21E 1589 FSL 2029 FEL
43-047-52719	NBU 921-23J4CS	Sec 23 T09S R21E 1599 FSL 2031 FEL
43-047-52720	NBU 921-23O1CS	Sec 23 T09S R21E 1579 FSL 2028 FEL
43-047-52721	NBU 921-23E1BS	Sec 23 T09S R21E 1888 FNL 1982 FWL
43-047-52722	NBU 921-23A1CS	Sec 23 T09S R21E 1343 FNL 0792 FEL
43-047-52723	NBU 921-23B4CS	Sec 23 T09S R21E 1137 FNL 2125 FEL
43-047-52724	NBU 921-23A4BS	Sec 23 T09S R21E 1343 FNL 0782 FEL
43-047-52725	NBU 921-23C4BS	Sec 23 T09S R21E 0789 FNL 1973 FWL
43-047-52726	NBU 921-23K4BS	Sec 23 T09S R21E 2435 FSL 1986 FWL
43-047-52727	NBU 921-23D4BS	Sec 23 T09S R21E 0794 FNL 1924 FWL
43-047-52728	NBU 921-23D4CS	Sec 23 T09S R21E 1885 FNL 1992 FWL
43-047-52729	NBU 921-23F1BS	Sec 23 T09S R21E 1882 FNL 2002 FWL
43-047-52730	NBU 921-23D1BS	Sec 23 T09S R21E 0792 FNL 1944 FWL
43-047-52731	NBU 921-23I4BS	Sec 23 T09S R21E 1608 FSL 2032 FEL
43-047-52732	NBU 921-23I1BS	Sec 23 T09S R21E 2138 FNL 1790 FEL
43-047-52738	NBU 921-23L4BS	Sec 23 T09S R21E 1782 FSL 0991 FWL
43-047-52739	NBU 921-23G1BS	Sec 23 T09S R21E 2120 FNL 1766 FEL
43-047-52740	NBU 921-23K1CS	Sec 23 T09S R21E 2427 FSL 2004 FWL
43-047-52741	NBU 921-23C1BS	Sec 23 T09S R21E 0791 FNL 1954 FWL
43-047-52742	NBU 921-23F1CS	Sec 23 T09S R21E 1879 FNL 2011 FWL
43-047-52743	NBU 921-23D1CS	Sec 23 T09S R21E 0793 FNL 1934 FWL
43-047-52744	NBU 921-23P4BS	Sec 23 T09S R21E 0383 FSL 1166 FEL
43-047-52745	NBU 921-23N4CS	Sec 23 T09S R21E 0791 FSL 1329 FWL
43-047-52746	NBU 921-23O4BS	Sec 23 T09S R21E 0375 FSL 1205 FEL

API	Well Name	Surface Location
43-047-52747	NBU 921-23I4CS	Sec 23 T09S R21E 0377 FSL 1195 FEL
43-047-52748	NBU 921-23O4CS	Sec 23 T09S R21E 0373 FSL 1215 FEL
43-047-52749	NBU 921-23P1CS	Sec 23 T09S R21E 0381 FSL 1175 FEL
43-047-52750	NBU 921-23N1CS	Sec 23 T09S R21E 0790 FSL 1339 FWL
43-047-52751	NBU 921-23P4CS	Sec 23 T09S R21E 0379 FSL 1185 FEL
43-047-52752	NBU 921-23K4CS	Sec 23 T09S R21E 0794 FSL 1310 FWL
43-047-52753	NBU 921-23M4BS	Sec 23 T09S R21E 0795 FSL 1300 FWL
43-047-52754	NBU 921-23L4CS	Sec 23 T09S R21E 1788 FSL 0999 FWL
43-047-52755	NBU 921-23N1BS	Sec 23 T09S R21E 0792 FSL 1319 FWL
43-047-52756	NBU 921-23M1BS	Sec 23 T09S R21E 0796 FSL 1290 FWL
43-047-52758	NBU 921-23L1CS	Sec 23 T09S R21E 1794 FSL 1007 FWL
43-047-52759	NBU 921-23N4BS	Sec 23 T09S R21E 0788 FSL 1349 FWL

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/24/2012

API NO. ASSIGNED: 43047527470000

WELL NAME: NBU 921-23I4CS

OPERATOR: KERR-MCGEE OIL &amp; GAS ONSHORE, L.P. (N2995)

PHONE NUMBER: 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: SESE 23 090S 210E

Permit Tech Review: ☒

SURFACE: 0377 FSL 1195 FEL

Engineering Review: ☒

BOTTOM: 1567 FSL 0494 FEL

Geology Review: ☒

COUNTY: UINTAH

LATITUDE: 40.01525

LONGITUDE: -109.51372

UTM SURF EASTINGS: 626843.00

NORTHINGS: 4430508.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 0149075

PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

☒ PLAT☒ Bond: FEDERAL - WYB000291☐ Potash☒ Oil Shale 190-5☐ Oil Shale 190-3☐ Oil Shale 190-13☒ Water Permit: 43-8496☐ RDCC Review:☐ Fee Surface Agreement☒ Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

☐ R649-2-3.

Unit: NATURAL BUTTES

☐ R649-3-2. General☐ R649-3-3. Exception☒ Drilling Unit

Board Cause No: Cause 173-14

Effective Date: 12/2/1999

Siting: Suspends General Siting

☒ R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason

RECEIVED: August 22, 2012



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-23I4CS  
**API Well Number:** 43047527470000  
**Lease Number:** UTU 0149075  
**Surface Owner:** INDIAN  
**Approval Date:** 8/22/2012

### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### Commingle:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R. 649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "John Rogers", written over a horizontal line.

For John Rogers  
Associate Director, Oil & Gas

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JAN 10 2012

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

BLM Vernal Utah

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0149075
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL&GAS ONSHORE LP Contact: LAURA ABRAMS Laura.Abrams@anadarko.com		7. If Unit or CA Agreement, Name and No. UTU63047A
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356	8. Lease Name and Well No. NBU 921-2314CS
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESE 377FSL 1195FEL 40.015266 N Lat, 109.513782 W Lon At proposed prod. zone NESE 1567FSL 494FEL 40.018535 N Lat, 109.511289 W Lon		9. API Well No. 43-047-52747.
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 41.3 MILES SOUTH OF VERNAL, UT		10. Field and Pool, or Exploratory NATURAL BUTTES
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 494'	16. No. of Acres in Lease 640.00	11. Sec., T., R., M., or Blk. and Survey or Area Sec 23 T9S R21E Mer SLB
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 307'	19. Proposed Depth 11112 MD 10889 TVD	12. County or Parish UINTAH COUNTY
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4899 GL	22. Approximate date work will start 06/30/2012	13. State UT
20. BLM/BIA Bond No. on file WYB000291		17. Spacing Unit dedicated to this well
23. Estimated duration 60-90 DAYS		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356	Date 12/30/2011
Title REGULATORY ANALYST II		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date OCT 29 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached. **CONDITIONS OF APPROVAL ATTACHED**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #127121 verified by the BLM Well Information System  
For KERR MCGEE OIL&GAS ONSHORE, LP sent to the Vernal

NOTICE OF APPROVAL

NOV 06 2012

DIV. OF OIL, GAS & MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

171000222

NOV 06 2012



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Kerr McGee Oil & Gas Onshore, LP  
Well No: NBU 921-2314CS  
API No: 43-047-52747

Location: SESE, Sec. 23, T9S, R21E  
Lease No: UTU-0149075  
Agreement: Natural Buttes

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm_ut_vn_opreport@blm.gov">blm ut vn opreport@blm.gov</a>
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

**SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Paint facilities "Shadow Gray"
- Conduct a raptor survey prior to construction operations if such activities would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during the survey, operations shall be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines.
- 
- If constructed and/or drilling operations have not been initiated prior to August 24, 2012, conduct a biological survey to determine the presence of Uintah Basin hookless cactus in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures and the BLM RMP ROD. KMG will implement commitments contained in the GNB BO.
- Monitor construction operations with a permitted archeologist.
- Monitor construction operations with a permitted paleontologist.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma ray Log shall be run from Total Depth to Surface.

**Variances Granted:**

**Air Drilling**

1. Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
2. Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
3. Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40' from the well bore.
4. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
5. Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
6. FIT Test. Variance granted due to well-known geology and the problems that can occur with the FIT test.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:**

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or

abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.

- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>PHONE NUMBER:</b> 720 929-6511		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>8/22/2013</b>	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input checked="" type="checkbox"/> <b>APD EXTENSION</b>
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** July 31, 2013

**By:**

<b>NAME (PLEASE PRINT)</b> Teena Paulo	<b>PHONE NUMBER</b> 720 929-6236	<b>TITLE</b> Staff Regulatory Specialist
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/29/2013



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047527470000**

API: 43047527470000

Well Name: NBU 921-2314CS

Location: 0377 FSL 1195 FEL QTR SESE SEC 23 TWP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 8/22/2012

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☒ Yes ☐ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Signature: Teena Paulo

Date: 7/29/2013

Title: Staff Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 12/26/2013  <input type="checkbox"/> DRILLING REPORT Report Date:	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Spud well 12/26/2013 @ 16:00. Drill 24" conductor hole to 40', run 14" X .250 wall conductor pipe, cement with 81 sacks ready mix. Anticipated surface spud date and surface casing cement 01/17/2014.		
<b>NAME (PLEASE PRINT)</b> Doreen Green		<b>PHONE NUMBER</b> 435 781-9758
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II
<b>DATE</b> 12/30/2013		<b>Accepted by the Utah Division of Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> December 31, 2013

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 4/2/2014	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Drilled to 2,955 ft. in Quarter 1 of 2014.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> April 02, 2014		
<b>NAME (PLEASE PRINT)</b> Teena Paulo		<b>PHONE NUMBER</b> 720 929-6236
<b>SIGNATURE</b> N/A		<b>TITLE</b> Staff Regulatory Specialist
<b>DATE</b> 4/2/2014		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/26/2014	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> No activity for Quarter 2 of 2014. Well TD at Drilled to 2,955 ft.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b> July 01, 2014		
<b>NAME (PLEASE PRINT)</b> Doreen Green		<b>PHONE NUMBER</b> 435 781-9758
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II
<b>DATE</b> 6/26/2014		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/12/2014	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. No activity for Quarter 3 of 2014. Well TD at 2,955 ft. Thank you.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> September 15, 2014		
<b>NAME (PLEASE PRINT)</b> Kay E. Kelly		<b>PHONE NUMBER</b> 720 929 6582
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 9/12/2014		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/17/2014	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">           THE SURFACE TD IS AT 2,955. WAITING ON PRODUCTION RIG. THANK YOU.         </div> <div style="width: 35%; text-align: right;"> <b>Accepted by the              Utah Division of              Oil, Gas and Mining              FOR RECORD ONLY              December 17, 2014</b> </div> </div>		
<b>NAME (PLEASE PRINT)</b> Kay E. Kelly	<b>PHONE NUMBER</b> 720 929 6582	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/17/2014	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>PHONE NUMBER:</b> 720 929-6111		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2015	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. No activity for Quarter 1 of 2015. Well drilled to TD at 2,955 ft.		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas		<b>PHONE NUMBER</b> 720 929-6808
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Specialist
<b>DATE</b> 3/30/2015		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/30/2015	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> No activity for Quarter 2 of 2015. Well drilled to 2,955 ft. Thank you.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          July 06, 2015</b>		
<b>NAME (PLEASE PRINT)</b> Kristina Geno		<b>PHONE NUMBER</b> 720 929-6824
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 6/30/2015		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/30/2015	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> No activity for Quarter 3 of 2015. Well TD at 2,955 ft. Thank you.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> September 30, 2015		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas		<b>PHONE NUMBER</b> 720 929-6808
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Specialist
<b>DATE</b> 9/30/2015		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000			
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>  <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 11/1/2015  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<b>TYPE OF ACTION</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee respectfully requests permission to use an oil based mud (OBM) system as needed or a water based mud (WBM) system for the drilling of this well. All wells on the pad will be drilled using a closed loop system. If oil based mud is used Kerr-McGee will place two felt liners and two 30 mil liners under the footprint of the rig to contain any small discharges of oil based mud during drilling operations. The de-watered oil based cuttings will be stored on location in an area that will be lined and bermed, or they will be stored in 3 sided containers to ensure there will be no release of oil based fluids. Once the well is completed the oil based cuttings will be hauled to an approved disposal facility.					
<b>NAME (PLEASE PRINT)</b> Joel Malefyt		<b>PHONE NUMBER</b> 720 929-6828			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 10/21/2015		<b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> <u>October 21, 2015</u> <b>By:</b> <u>[Signature]</u>			

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-23I4CS**

Surface:	377 FSL / 1195 FEL	SESE
BHL:	1567 FSL / 494 FEL	NESE

Section 23 T9S R21E

Unitah County, Utah  
Mineral Lease: UTU 0149075

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2.a **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,555'	
Birds Nest	1,845'	Water
Mahogany	2,349'	Water
Wasatch	4,842'	Gas
Mesaverde	7,607'	Gas
Sego	9,839'	Gas
Castlegate	9,867'	Gas
MN5	10,289'	Gas
TVD =	10,889'	
TD =	11,112'	

- 2.C Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

6. **Evaluation Program:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

7. **Abnormal Conditions:**7.a **Blackhawk (Part of Mesaverde Formation) Target Formation**

Maximum anticipated bottom hole pressure calculated at 10889' TVD, approximately equals  
7,187 psi (0.66 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,841 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

7.b **Wasach/Mesaverde Target Formation**

Maximum anticipated bottom hole pressure calculated at 9839' TVD, approximately equals  
6,297 psi (0.64 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,119 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

9. **Variances:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program  
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements  
associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated  
with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

### **Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### **Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

**Variance for FIT Requirements**

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

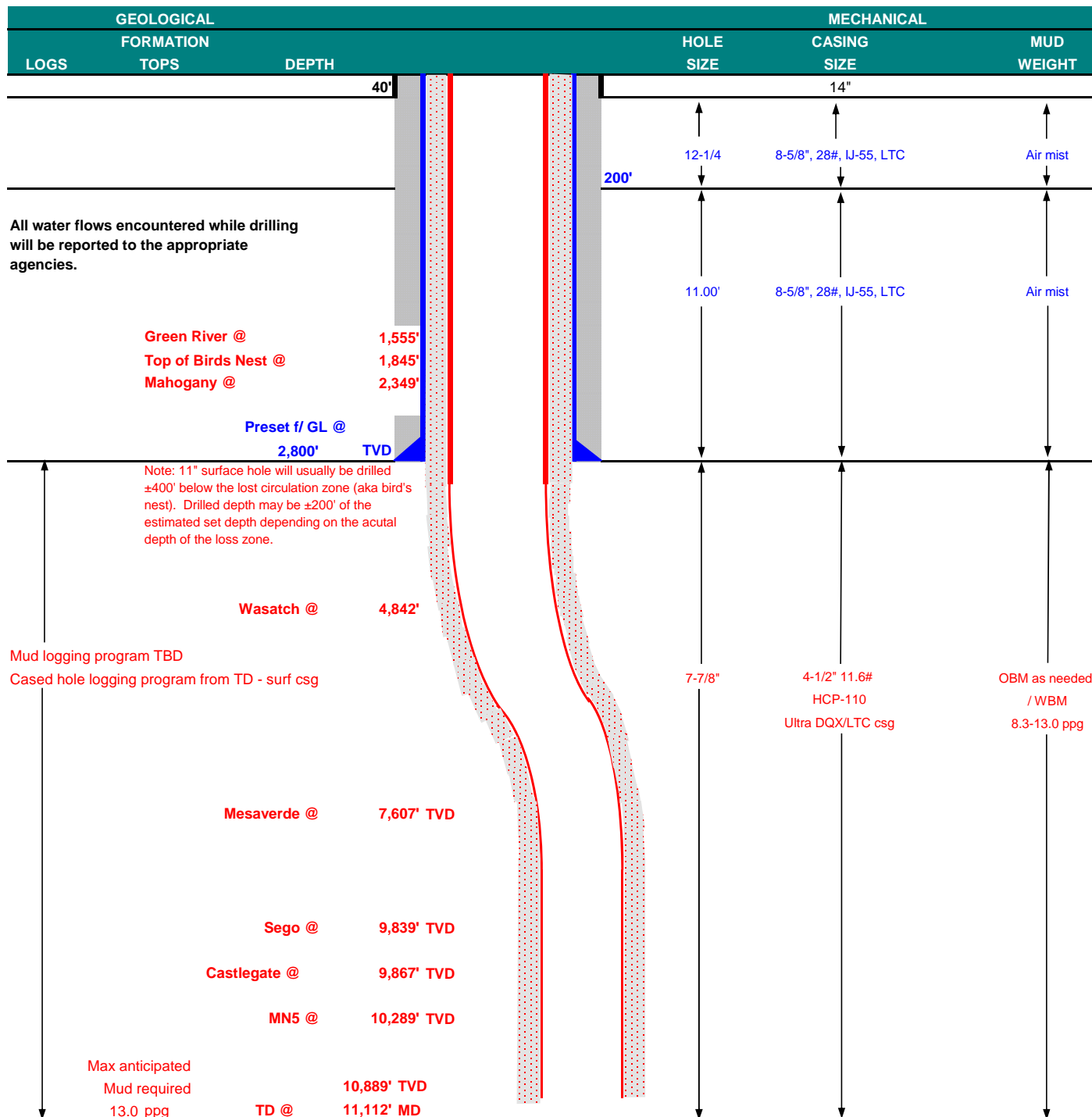
**10. Other Information:**

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



**KERR-McGEE OIL & GAS ONSHORE LP**  
**BLACKHAWK DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	October 21, 2015		
WELL NAME	<b>NBU 921-2314CS</b>					TD	10,889'	TVD	11,112' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		4,897'
SURFACE LOCATION	SESE	377 FSL	1195 FEL	Sec 23	T 9S	R 21E			
	Latitude:	40.015266	Longitude:	-109.513782		NAD 83			
BTM HOLE LOCATION	NESE	1567 FSL	494 FEL	Sec 23	T 9S	R 21E			
	Latitude:	40.018535	Longitude:	-109.511289		NAD 83			
OBJECTIVE ZONE(S)	BLACKHAWK								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Indian Tribe (Surface), UDOGM Tri-County Health Dept.								



NBU 921-23P Pad

Drilling Program  
6 of 10

## KERR-McGEE OIL & GAS ONSHORE LP

### BLACKHAWK DRILLING PROGRAM

**CASING PROGRAM**

CASING PROGRAM							DESIGN FACTORS			
							LTC		DQX	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'								
							3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,800	28.00	IJ-55	LTC	1.92	1.43	5.07	N/A
							10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.18		3.55
	4-1/2"	5,000	to 11,112'	11.60	HCP-110	LTC	1.19	1.18	4.91	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @

9000 psi)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	2,300'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,342'	Premium Lite II +0.25 pps	340	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,770'	50/50 Poz/G + 10% salt + 2% gel	1,600	35%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

**DATE:****DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

RECEIVED: Oct. 21, 2015



NBU 921-23P Pad

Drilling Program  
8 of 10**KERR-McGEE OIL & GAS ONSHORE LP****WASATCH/MESAVERDE DRILLING PROGRAM****CASING PROGRAM**

						DESIGN FACTORS			
						LTC		DQX	
	SIZE	INTERVAL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,800	28.00	IJ-55	LTC	1.92	1.43	5.07	N/A
						7,780	6,350		267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	0.99		2.83
						10,690	8,650	223,000	
	4-1/2"	5,000 to 10,062'	11.60	HCP-110	LTC	1.53	1.35	4.69	

**Surface Casing:**

(Burst Assumptions: TD = 12.5 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @

7000 psi)

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15
			+ 0.25 pps flocele					
Option 1								
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15
			+ 2% CaCl + 0.25 pps flocele					
			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
SURFACE	LEAD	2,300'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00		3.82
			+ 0.25 pps Flocele + 3% salt BWOW					
Option 2								
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15
			+ 0.25 pps flocele					
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	4,342'	Premium Lite II +0.25 pps	340	35%	12.00		3.38
			celloflake + 5 pps gilsonite + 10% gel					
			+ 0.5% extender					
	TAIL	5,720'	50/50 Poz/G + 10% salt + 2% gel	1,350	35%	14.30		1.31
			+ 0.1% R-3					

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

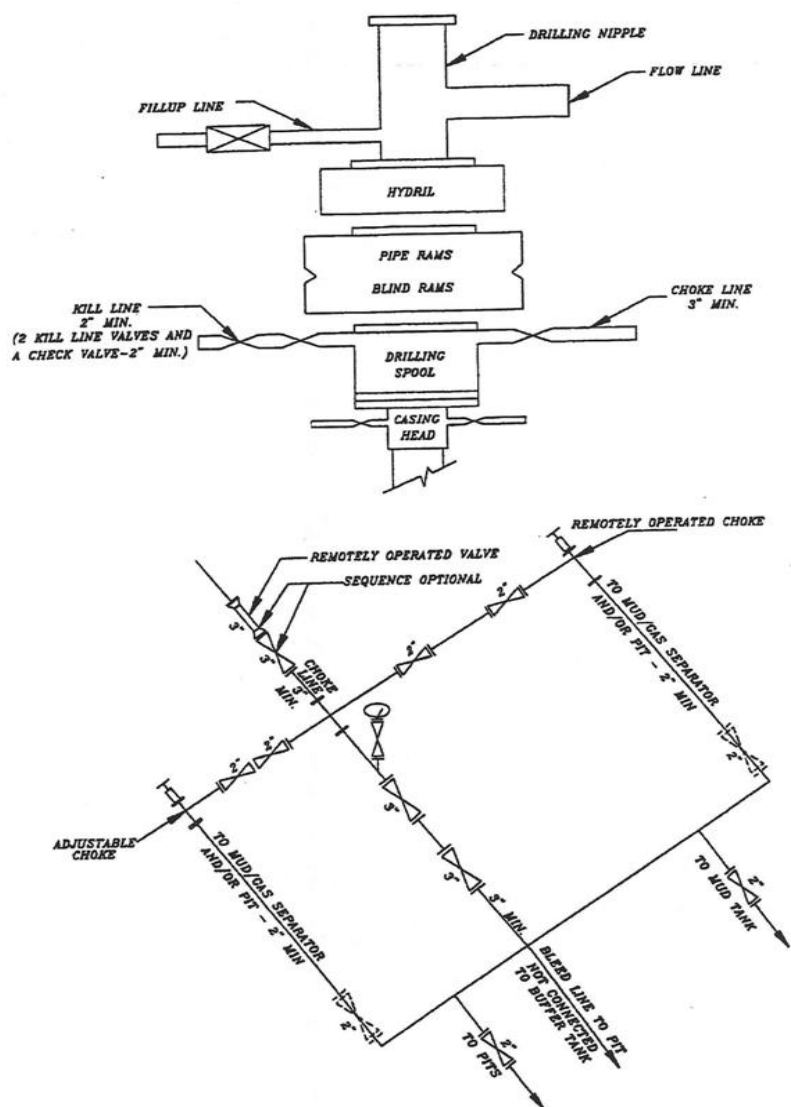
**DATE:****DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

RECEIVED: Oct. 21, 2015

**EXHIBIT A**  
**NBU 921-23I4CS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

OBM as needed  
/ WBM

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/30/2015	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> 11/30/2015, drilling operations have resumed on the NBU 921-23P PAD. The following wells on this pad will be drilled to TD: NBU 921-23I4CS, NBU 921-23O4CS, NBU 921-23P1CS, NBU 921-23P4BS, NBU 921-23P4CS. THE NBU 921-23O4BS WILL REMAIN IN A DEFERRED STATUS.		
<b>NAME (PLEASE PRINT)</b> Doreen Green		<b>PHONE NUMBER</b> 435 781-9758
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II
<b>DATE</b> 12/4/2015		<div style="text-align: right;"> <b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>FOR RECORD ONLY</b>          December 08, 2015       </div>

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>PHONE NUMBER:</b> 720 929-6507		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/29/2015	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 No activity for Quarter 4 of 2015. Well TD at 2,959 ft. Thank you.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 December 29, 2015

<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/29/2015	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>PHONE NUMBER:</b> 720 929-6507		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/2/2016	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  

The NBU 921-2314CS well was drilled to a TD of 9,996 ft in January 2016. Please see the attached operations summary report for a detailed description of operations conducted on the well during the month.

Thank you.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 February 03, 2016

<b>NAME (PLEASE PRINT)</b> Kristina Geno	<b>PHONE NUMBER</b> 720 929-6824	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/2/2016	

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS				Spud date: 1/24/2014					
Project: UTAH-UINTAH				Site: NBU 921-23P PAD				Rig name no.: ENSIGN 145/145, CAPSTAR 310/310	
Event: DRILLING				Start date: 1/24/2014				End date:	
Active datum: RKB @4,911.00usft (above Mean Sea Level)				UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
1/24/2014	2:30 - 3:30	1.00	MIRU	01	E	P	53	CUT OFF CONDUCTOR / RIG DOWN	
	3:30 - 5:00	1.50	MIRU	01	C	P	53	CONDUCT JSA WITH TRUCKS TO SKID RIG / SKID RIG TO THE NBU 921-23I4CS, WELL 5 OF 6. HOWCROFT FIELD SERVICES HAD 2 TRUCKS 1 SWAMPER 1 PUSHER/SAFETY MAN	
	5:00 - 8:30	3.50	MIRU	01	B	P	53	RIG UP / WELD ON ROTATING HEAD / RIG UP FLOW LINE	
	8:30 - 9:00	0.50	MIRU	01	B	P	53	PICK UP BHA / TRIP IN HOLE	
	9:00 - 9:30	0.50	MIRU	23		P	53	PRE SPUD SAFETY MEETING	
	9:30 - 11:00	1.50	DRLSUR	02	B	P	53	DRILL 12 1/4" SURFACE HOLE F/ 49' TO 200' , 151' @ 100.6 FPH WOB = 8 TO 12K ROTARY RPM = 65 MUD MOTOR RPM = 111 TOTAL = 166 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 850/650 TORQUE ON/OFF = 2100/1500 PU = 28/ SO = 16 / ROT = 26 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 NO HOLE ISSUES.	
	11:00 - 13:00	2.00	DRLSUR	06	A	P	204	TRIP OUT OF HOLE LAY DOWN 12 1/4" PICK UP 11" BIT AND DIRECTIONAL TOOLS / SCRIB AND TRIP IN HOLE	
	13:00 - 15:00	2.00	DRLSUR	02	B	P	204	DRILL 11" SURFACE HOLE F/ 200' TO 420', 220' @ 138.7 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 44 / SO = 40 / ROT = 42 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 280' = 12.79% 1.5' ABOVE & .9' RIGHT OF THE LINE NO HOLE ISSUES	
	15:00 - 15:30	0.50	DRLSUR	07	C	P	424	CHANGE ROTATING HEAD RUBBER	

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	15:30 - 17:00	1.50	DRLSUR	02	B	P	424	DRILL 11" SURFACE HOLE F/ 420' TO 540', 120' @ 80 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 55 / SO = 44 / ROT = 48 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 66' = 16.26% 3.76' ABOVE & .83' RIGHT OF THE LINE NO HOLE ISSUES
	17:00 - 17:30	0.50	DRLSUR	07	A	P	544	RIG SERVICE
	17:30 - 0:00	6.50	DRLSUR	02	B	P	544	DRILL 11" SURFACE HOLE F/ 540' TO 1,253', 713' @ 109.7 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 44 / SO = 40 / ROT = 42 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 171' = 26.39% 9.9' ABOVE & 7.9' RIGHT OF THE LINE NO HOLE ISSUES
1/25/2014	0:00 - 6:00	6.00	DRLSUR	02	B	P	1257	DRILL 11" SURFACE HOLE F/ 1,253' TO 1,705', 452' @ 75.3 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 75 / SO = 60 / ROT = 66 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 39' = 8.67% 6.71' ABOVE & 5.12' RIGHT OF THE LINE NO HOLE ISSUES

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 12:00	6.00	DRLSUR	02	B	P	1709	DRILL 11" SURFACE HOLE F/ 1,705' TO 2,178', 473' @ 78.8 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 80 / SO = 66 / ROT = 72 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 58' = 12.24% 8.33' ABOVE & 1.30' RIGHT OF THE LINE NO HOLE ISSUES
	12:00 - 16:00	4.00	DRLSUR	02	B	P	2182	DRILL 11" SURFACE HOLE F/ 2,178' to 2,474', 296' @ 74 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 84 / SO = 74 / ROT = 78 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 20' = 4.84% 6.83' ABOVE & 1.66' RIGHT OF THE LINE NO HOLE ISSUES
	16:00 - 16:30	0.50	DRLSUR	07	A	P	2478	RIG SERVICE
	16:30 - 23:30	7.00	DRLSUR	02	B	P	2478	DRILL 11" SURFACE HOLE F/ 2,474' to 2,955', 501' @ 71.6 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 105 / SO = 75 / ROT = 85 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 28' = 7.67% 5.34' ABOVE & 1.27' RIGHT OF THE LINE NO HOLE ISSUES
	23:30 - 0:00	0.50	CSGSUR	05	A	P	2959	CIRCULATE AND CONDITION HOLE FOR CASING
1/26/2014	0:00 - 0:30	0.50	CSGSUR	05	A	P	2959	CIRCULATE AND CONDITION HOLE
	0:30 - 4:30	4.00	CSGSUR	06	D	P	2959	LAY DOWN DRILL PIPE AND BHA
	4:30 - 5:00	0.50	CSGSUR	12	A	P	2959	CHANGE OVER TO RUN CASING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	5:00 - 7:30	2.50	CSGSUR	12	C	P	2959	PREJOB SAFETY WITH RIG CREW. RAN 64 JTS OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD COLLAR TO 2,519'. LANDED CASING SHOE AT 2,933'. BAFFLE PLATE @ 2,885'
	7:30 - 10:30	3.00	CSGSUR	12	E	P	2959	PREJOB SAFETY MEETING WITH PRO PETRO CEMENTERS & RIG CREW. RAN 200' OF 1" PIPE DOWN BACKSIDE OF CASING TESTED LINES TO 1500 PSI PUMPED 20 BBLS FRESH WATER CLEARING SHOE RETURNS TO SURFACE MIXED AND PUMPED 20 BBL GELLED WATER FLUSH AHEAD OF CEMENT MIXED AND PUMPED 300 SX OF PREMIUM LEAD CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 152.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. MIXED AND PUMPED 225 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 35.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE CEMENT WITH 180 BBL FRESH WATER. NO RETURNS THROUGH OUT DISPLACEMENT. FINAL LIFT OF 600 PSI @ 3 BBL/MINUTE. BUMP PLUG WITH 700 PSI. HELD 1000 PSI FOR 5 MINUTES. 15 BBLS CEMENT TO SURFACE, FELL BACK CHECK FLOAT. FLOAT HELD. TOP JOB # 1: PUMP CEMENT DOWN 1" PIPE WITH 60 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 12.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. CEMENT TO SURFACE STOOD FULL  RELEASE RIG @ 10:30 1/26/2014  RELEASE CEMENTERS @ 10:30 1/26/2014
1/20/2016	12:00 - 12:30	0.50	MIRU3	01	C	P	2959	SKID RIG WHILE CLEANING PITS ON LAST WELL.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	12:30 - 13:00	0.50	CSGSUR	15	A	P	2959	PRESSURE TEST CASING TO 1500 PSI FOR 30 MINUTES.HOLD SAFETY MEETINGS WITH A-1 TESTING RIG UP TESTER AND TEST BOPE. PRESSURE TEST CASING TO 1500 PSI FOR 30 MINUTES. TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN. TEST PIPE & BLIND RAMS, 4" AND 4.5 FLOOR VALVES AND DART VALVE, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOPS, CHOKES AND CHOKE MANIFOLD VALVES TO 250 PSI LOW / 5 MIN - 5000 PSI HIGH / 10 MIN. HOLD ACCUMULATOR FUNCTION TEST, & TEST RIG DOWN TESTER. INSTALL WEAR BUSHING SLIP AND CUT DRILL LINE. LAY OUT BHA, DRIFT AND TALLY 4.5" HWPDP. CHANGE OUT SAVER SUB (FILL PITS WITH WATER BASE MUD 12# AND START CUTTING MUD) PRESSURE TESTED WHILE CLEANING PITS.
	13:00 - 15:30	2.50	CSGSUR	06	A	P	2959	PICK UP BAKER 5:6 3.0 STAGE .16REV 1.5ABH / -.004 FIT AND MAKE UP SMITH Z616 W/ 6-16'S. JK6435. PICK UP TOTAL DIRECTIONAL MWD TOOLS, AND SCRIBE MOTOR. TRIP IN HOLE, PICKING UP 30 JTS OF 4.5" HWD. TRIP IN HOLE TO 2900'.
	15:30 - 17:30	2.00	CSGSUR	06	A	P	2959	TRIP IN THE HOLE F/ 1043' T/ 2750'
	17:30 - 19:30	2.00	DRLPRC	02	F	P	2959	DRILL CEMENT AND 8 5/8" SHOE TRACK F/ 2,870' - T/ 2,959' - SPM 80 @ 304GMP w/ 802psi, RPM 30 BAFFLE @ 2,889', SHOE @ 2,937'
	19:30 - 0:00	4.50	DRLPRC	02	D	P	2959	DIRECTIONAL DRILL F/ 2,959' - T/3,219' ( 260' @ 65' /FPH ) TOTAL BIT HRS 3.5, TOTAL CIRC HRS 5.8 HRS WEIGHT ON BIT = 18/25 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 4-6K STPP = 1850 OFF BOTTOM = 1,650 STRING WEIGHT UP/DOWN/ROTATING = 95 / 80 / 83 BIT POSISTION:2.87' Low / 7.24 Left MUD WEIGHT OBM = 9.3 PPG VISCOSITY = 73 SECONDS
1/21/2016	0:00 - 16:30	16.50	DRLPRC	02	D	P	3219	DIRECTIONAL DRILL 3,219'- 4452 ( 1233' @ 99.4' /FPH @ 12.4HRS ) TOTAL BIT HRS 15.9, TOTAL CIRC HRS 20.9 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 5.7-9.7K STPP = 1980 OFF BOTTOM = 2400 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 134 / 110 / 117 BIT POSISTION:2.87' Low / 7.24 Left MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 40 SECONDS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:30 - 17:00	0.50	DRLPRC	07	A	P	4452	LUBRICATE RIG AND TOP DRIVE, GREASE BLOCKS AND SWIVEL
	17:00 - 0:00	7.00	DRLPRC	02	D	P	4452	DIRECTIONAL DRILL 4,452'- 4948' ( 496' @ 70.85' /FPH @ 6.7HRS ) TOTAL BIT HRS 21.8, TOTAL CIRC HRS 27.5 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 5.7-10K STPP = 2120 OFF BOTTOM = 2450 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 125 / 90 / 101 BIT POSISTION: 157' Low / 28.03' Left MUD WEIGHT OBM = 8.9 PPG VISCOSITY = 42 SECONDS
1/22/2016	0:00 - 16:00	16.00	DRLPRC	02	D	P	4948	DIRECTIONAL DRILL 4948'- 6256' ( 1308' @ 97' /FPH @ 13.5HRS ) TOTAL BIT HRS 35.3, TOTAL CIRC HRS 42.6 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-10.1K STPP = 2700 OFF BOTTOM = 2300 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 156 / 110 / 134 BIT POSISTION: MUD WEIGHT OBM = 9.1 PPG VISCOSITY = 39 SECONDS STARTED SEEING SEEPAGE AT 5729' @ 6 BBLs HR. CONTINUE TO DRILL AHEAD. PUMP HIGH VIS SWEEP EVERY OTHER CONNECTION TO CLEAN HOLE. NO LCM SWEEPS PUMPED.
	16:00 - 16:30	0.50	DRLPRC	07	A	P	6256	RIG SERVICE. SERVICE TOP DRIVE BLOCKS AND CROWN.
	16:30 - 0:00	7.50	DRLPRC	02	D	P	6256	DIRECTIONAL DRILL 6256' - 6769' ( 513' @ 81.4' /FPH @ 6.3 HRS ) TOTAL BIT HRS 41.6, TOTAL CIRC HRS 49.9' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-11.5K STPP = 2700 OFF BOTTOM = 2300 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 180 / 115 / 135 BIT POSISTION: 18.3' North / 5.57' West MUD WEIGHT OBM = 9.1 PPG VISCOSITY = 39 SECONDS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
1/23/2016	0:00 - 5:45	5.75	DRLPRC	02	D	P	6769	DIRECTIONAL DRILL 6769'- 7041' ( 272' @ 54.4' /FPH @ 5 HRS ) TOTAL BIT HRS 5, TOTAL CIRC HRS 55.5' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-11.5K STPP = 2750 OFF BOTTOM = 2350 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 197 / 124 / 144 BIT POSITION: MUD WEIGHT OBM = 9.1 PPG VISCOSITY = 37 SECONDS
	5:45 - 9:45	4.00	DRLPRC	22	G	X	7041	LOST FULL CIRCULATION.. PUMP 2- 15 BBLS 12% LCM SWEEPS. REGAINED CIRCULATION PARTIALLY AS SWEEPS WENT PAST LOST ZONE AT 7041' THEN LOSS ALL RETURNS AGAIN. MIX UP 24 BBLS 20% LCM SWEEP WITH DIAMOND SEAL AND PUMP. PUMP PILL JUST OUTSIDE OF PIPE AND TRIP UP 5 STANDS. PUMP TILL 20 BBLS HAD GONE INTO FORMATION AT 80 GPM MINUTE. SHUT DOWN AND KEEP PIPE MOVING TO MAKE SURE HOLE WAS NOT GETTING TIGHT. WAIT 1 HOUR AND START TO CIRCULATE WITH HIGH LOSSES (150 BBLS /HR @ 80 GPM). PUMP ANOTHER 20% LCM AND DIAMOND SEAL SWEEP AND LET FALL INTO LOSS ZONE. WHEN SWEEP FELL INTO LOSS CIRCULATION ZONE REGAINED MOST OF RETURNS. WASH BACK TO BOTTOM, BUILDING PUMP UP TO 400 GPM WITH 35 BBL/HR LOSS. TIME 50 BBL 25% LCM SWEEP TO COME OUT OF BIT, WHILE STARTING TO DRILL. HOLE HEALED UP.. CONTINUE TO PUMP 5 BBL 20% EVERY 30 MINUTES TO MAINTAIN LOSSES.
	9:45 - 16:00	6.25	DRLPRC	02	D	P	7041	DIRECTIONAL DRILL 7041'- 7246' ( 205' @ 39.4' /FPH @ 5.2 HRS ) TOTAL BIT HRS 46.6, TOTAL CIRC HRS 64.6' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 70 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2200 OFF BOTTOM = 1825 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 189 / 120 / 146 BIT POSITION: MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY 30 MINUTES
	16:00 - 16:30	0.50	DRLPRC	07	A	P	7246	RIG SERVICE. SERVICE TOP DRIVE, BLOCKS AND CROWN

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:30 - 0:00	7.50	DRLPRC	02	D	P	7246	DIRECTIONAL DRILL 7246'- 7532' ( 286' @ 41.4' /FPH @ 6.9 HRS ) TOTAL BIT HRS 58.8, TOTAL CIRC HRS 72.2 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 194 / 124 / 141 BIT POSITION: MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY 30 MINUTES
1/24/2016	0:00 - 1:00	1.00	DRLPRC	02	D	P	7532	DIRECTIONAL DRILL 7532'- 7573' (45.5' @ 41' /FPH @ .9 HRS ) TOTAL BIT HRS 59.7, TOTAL CIRC HRS 73.2 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 194 / 124 / 141 BIT POSITION: MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	1:00 - 2:00	1.00	DRLPRC	22	G	P	7573	LOST COMPLETE CIRCULATION. (STOOD BACK 1 STAND TO BE ABLE TO WORK PIPE) MIX AND PUMP 20 BBLs 20% LCM SWEEP. BEFORE SWEEP REACHED FORMATION RETURNS CAME BACK AND HEALED. FILLED A POSSIBLE VOID. LOSS 90 BBLs. (TRIP BACK IN WITH THE 1 STAND OF DRILL PIPE.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	2:00 - 14:00	12.00	DRLPRC	02	D	P	7573	DIRECTIONAL DRILL 7573'- 8049' (476' @ 49 /FPH @ 9.7 HRS ) TOTAL BIT HRS 69.4, TOTAL CIRC HRS 85.4 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 198 / 124 / 144 BIT POSITION: MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	14:00 - 14:30	0.50	DRLPRC	07	A	P	8049	RIG SERVICE. SERVICE TOP DRIVE AND BLOCKS. CHANGE BALE TILT RAM.
	14:30 - 18:00	3.50	DRLPRC	02	D	P	8049	DIRECTIONAL DRILL 8049'- 8213' (164' @ 51' /FPH @ 3.2 HRS ) TOTAL BIT HRS 72.7, TOTAL CIRC HRS 89.5 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 2050 OFF BOTTOM = 1800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 198 / 124 / 144 BIT POSITION: MUD WEIGHT OBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	18:00 - 21:00	3.00	DRLPRC	05	G	P	8213	WE TRANFERED THE HEAVY MUD INTO THE SYSTEM AT 200 GPM 39 VIS / 11.8 MW 5%-10% LCM ESTIMATED LOSSES WHILE DISPLACING 30 BBL. MUD

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	21:00 - 0:00	3.00	DRLPRC	02	D	P	8213	DIRECTIONAL DRILL 8213'- 8337' (124' @ 51' /FPH @ 2.4HRS ) TOTAL BIT HRS 75.1, TOTAL CIRC HRS 95.2 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 3100 OFF BOTTOM = 2800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 181 / 126 / 140 BIT POSISTION: 11.18' North / 1.89' East MUD WEIGHT OBM = 10.9 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
1/25/2016	0:00 - 9:00	9.00	DRLINC	02	D	P	8337	DIRECTIONAL DRILL 8337'- 8777' (440' @ 53.6' /FPH @ 8.2HRS ) TOTAL BIT HRS 83.3, TOTAL CIRC HRS 103.8 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 138 GALLONS PER MINUTE = 525 MUD MOTOR RPM = 73.5 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 3100 OFF BOTTOM = 2800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 200 / 125 / 148 BIT POSISTION: MUD WEIGHT OBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
	9:00 - 9:30	0.50	DRLINC	07	A	P	8777	RIG SERVICE (SERVICE TOP DRIVE, BLOCKS AND CROWN)
	9:30 - 0:00	14.50	DRLPRO	02	D	P	8777	DIRECTIONAL DRILL 8777'- 9463' (686' @ 52.7' /FPH 13 @ HRS ) TOTAL BIT HRS 96.3, TOTAL CIRC HRS 117.9 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550 MUD MOTOR RPM = 89 TOP DRIVE RPM = 55 TOTAL RPM = 144 FT/LBS TORQUE = 12-16.5K STPP = 3750 OFF BOTTOM = 3550 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 199 / 134 / 151 BIT POSISTION: 3.84' South / 15.78' East MUD WEIGHT OBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
1/26/2016	0:00 - 17:00	17.00	DRLPRC	02	D	P	9463	DIRECTIONAL DRILL 9463'- 9854' (391' @ 27.3' /FPH 14.3 @ HRS ) TOTAL BIT HRS 110.6 TOTAL CIRC HRS 134 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 11.2-13.8K STPP = 3750 OFF BOTTOM = 3550 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 225 / 125 / 158 BIT POSISTION: MUD WEIGHT OBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
	17:00 - 17:30	0.50	DRLPRC	07	A	P	9854	SERVICE TOP DRIVE, BLOCKS AND CROWN.
	17:30 - 0:00	6.50	DRLPRC	02	D	P	9854	DIRECTIONAL DRILL 9854'- 9939' (85' @ 14' /FPH 6 @ HRS ) TOTAL BIT HRS 116.8 TOTAL CIRC HRS 140.8 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 12-17K STPP = 3800 OFF BOTTOM = 3650 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 213 / 124 / 155 BIT POSISTION: 23.2' South / 23.01' East MUD WEIGHT OBM = 11.3 PPG VISCOSITY = 40 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
1/27/2016	0:00 - 4:30	4.50	DRLPRC	02	D	P	9939	DIRECTIONAL DRILL 9939'-9996' (57' @ 14.6' /FPH @ 3.9 HRS ) TD 1/27/2016 04:30. TOTAL BIT HRS 120.7 TOTAL CIRC HRS 145.7 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 12-17K STPP = 3800 OFF BOTTOM = 3650 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 214 / 120 / 155 BIT POSISTION: MUD WEIGHT OBM = 11.3 PPG VISCOSITY = 40 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	4:30 - 5:30	1.00	CSGPRO	05	F	P	9996	CIRCULATE AT 525 GPM WITH 3500 PSI. CIRCULATE AROUND HIGH VIS SWEEP WITH LCM. 20% INCREASE IN CUTTINGS COMING OUT WITH SWEEP. HOLE CLEANED UP. NO FLOW ON FLOW CHECK. READY 30 BBLs 12.8# SLUG AND HOLD.
	5:30 - 10:30	5.00	CSGPRO	06	D	P	9996	PUMP 3 STANDS OUT OF HOLE TILL PIPE COULD BE PULLED BELOW 250K OVER. PULL 4 STANDS TILL PIPE GOOD AND FREE AND PUMP DRY JOB. START LAYING DOWN DRILL PIPE FROM 7300'. HOLE TAKING SLIGHTLY MORE MUD TO KEEP HOLE FILL ON TRIP OUT.. NO TIGHT HOLE TILL 6095'.
	10:30 - 11:30	1.00	CSGPRO	03	A	P	9996	TRY TO WORK THROUGH TIGHT SPOT. UNABLE TO WORK THROUGH TIGHT SPOT WITH OUT PUMP. TURN ON PUMP AND ESTABLISH CIRCULATION. WHILE WORKING THROUGH TIGHTS SPOT LOST FULL CIRCULATION, BECAUSE OF HEAVY PILL AND RETRICTION OF FLOW WORKING THROUGH TIGHT SPOT. WORK UP THROUGH TIGHT SPOT TO 6000.
	11:30 - 14:30	3.00	CSGPRO	22	G	X	9996	TRIP BACK TO 7821' WITH REMAINING STANDS IN DERRICK TO JUST ABOVE LOSS ZONE AT 7060'. PUMP 40 BBLs 20% LCM SWEEP WITH DIAMOND SEAL, CEDER FIBER, MULTISEAL AND OPTI SEAL. CIRCULATE SWEEP DOWN TO LOSS ZONE. STARTED REGAINING PARTIAL RETURNS.. UPPED PUMP TO 400 GPM SO HOLE WOULD TAKE PILL INTO LOSS ZONE. MOST OF PILL WENT INTO FORMATION AND HOLE HEALED WITH NO LOSSES WHILE PUMPING 190 GPM. CIRCULATED WHILE MAKING UP 30 BBL 20% LCM SWEEP. WASH DOWN FORM 7821-7130'. PAST LOST ZONE, TIME SWEEP SO THAT IT WAS COMING OUT OF PIPE AS WASHING PAST LOST ZONE. HOLE HOLDING 100% AT 233 GPM. PUMP 15 BBL 12.5# DRY JOB.
	14:30 - 15:30	1.00	CSGPRO	06	D	P	9996	BLOW DOWN TOP DRIVE AND TRIP OUT LAYING DOWN DRILL PIPE FROM 7130'. PULL OUT OF HOLE NO TIGHT HOLE TILL 6095'. PULL THROUGH WITH NO PROBLEMS TO 5930', BUT UNABLE TO FILL HOLE AFTER PULLING THROUGH. PUMP AWAY 40 BBLs TRYING TO FILL HOLE.
	15:30 - 17:00	1.50	CSGPRO	22	G	X	9996	BUILD 80 BBL 20% LCM SWEEP. START PUMPING SWEEP AND BEFORE ADDING DIAMOND SEAL REGAINED FULL CIRCULATION AFTER LOSING 20 BBLs. CONTINUE PUMPING BOTTOMS UP TO MAKE SURE THERE WAS NO GAS. PUMPED LCM OUT OF PIPE AND PUMPED 15 BBL 11.5 DRY JOB.
	17:00 - 23:30	6.50	CSGPRO	06	D	P	9996	CONTINUE TO LAY DOWN 4" DRILL PIPE F/ 5,930' - T/ 121'
	23:30 - 0:00	0.50	CSGPRO	06	D	P	9996	LAY DOWN BHA
1/28/2016	0:00 - 1:00	1.00	CSGPRO	06	D	P	9996	CONTINUE LAY DOWN BHA
	1:00 - 1:30	0.50	CSGPRO	12	A	P	9996	CLEAN FLOOR AND PULL WEAR BUSHING
	1:30 - 2:30	1.00	CSGPRO	12	A	P	9996	HOLD SAFETY MEETING WITH FRANKS CASING. RIG UP 6' EXTENSION BALES AND CASING ELEVATORS. RIG UP HYDRAULIC CASING TONGS, AND SLIPS. RIG UP TORQUE TURN. FUNCTION TEST ALL EQUIPMENT

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	2:30 - 14:30	12.00	CSGPRO	12	C	P	9996	MAKE UP 4.5" P-110 WEATHERFORD FLOAT SHOE AND COLLAR WITH THREAD LOCK WITH SHOE JT. RUN IN HOLE WITH 7-7/8" BOW SPRING CENTRALIZERS ON FIRST 3 JTS AND EVERY 3 JT FOR A TOTAL OF 25 CENTRALIZERS WAS RUN. RUN 4.5" P-110 11.6# LT&C CASING T/ 4,999' TOTAL OF 112JTS LT&C. P/U 4.5" CROSSOVER TO DQX, (TOP OF CROSSOVER 4,966' SET DEPTH) CONTINUE TO RUN DQX F/ 5,064' - T/ 9,969' TOTAL OF 112 JTS DQX. MAKE UP CAMERON LANDING MANDREL AND LAND CASING @ 9,986' W/ 105K
								NOTE: MESA MARKER JT BETWEEN JT 46 AND 47, TOP OF MARKER 7,920' - STAGE TOOL BETWEEN JT 96 AND 97, TOP OF STAGE TOOL 5,697'. RAN THREE TOTAL CEMENT BASKETS WITH LOCKING BANDS AROUND STAGE TOOL. SHOE SET @ 9,986', FLOAT SET @ 9,940'
	14:30 - 15:00	0.50	CSGPRO	12	A	P	9996	R/D FRANKS CASING CREW
	15:00 - 16:00	1.00	CSGPRO	12	B	P	9996	R/U SCHLUMBERGER CEMENTERS WHILE CIRCULATING B/U STAGGING MUD PUMP UP SLOWLY F/ 20 SPM (75 GPM) - T/ 61 SPM (233 GPM) @ 305PSI. MAX UNITS 780 W/ NO FLARE AND NO LOSSES.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:00 - 0:00	8.00	CSGPRO	12	E	P	9996	<p>PRESSURE TESTED LINES 5000PSI (GOOD).            START PUMPING CHEMICAL WASH 5.3BPM 680PSI (PUMPED 30BBLS 8.3#)            START 14.5# TAIL CEMENT 6.5BPM @ 630PSI (TOTAL OF 209.4BBL)            SHUT DOWN/DROP LATCH IN FLEX PLUG BY HAND            START DISPLACEMENT 6BPM @ 150 PSI TOTAL OF 154.4BBLS            LAND PLUG @ 4BPM 1780PSI WENT TO 2557 TO MAKE SURE LATCH IN PLUG WAS LATCHED            CHECKED PLUG AND FLOATS HELD. BLED 1/2BBL TO PUMP TRUCK DROPPED OPENING CONE AND WAIT 40MINS FOR CONE TO LAND IN STAGETOOL            OPENED DV TOOL @ 835PSI            TURN OVER TO RIG TO CIRCULATE 4 HRS @ 190 GPM (250 PSI)            HOLD PJSA WITH CEMENT CREW AND RIG CREW            START 30BBLS OF CHEMICAL WASH 8.3# 6.5BPM @ 670PSI            START PUMPING LEAD CEMENT 211BBLS 6.5BPM 682PSI 12.5#            START PUMPING TAIL CEMENT 40BBLS 4.3BPM 288PSI 14.5#            START PUMPING TAIL CEMENT 14.6BBLS 4.3BPM 265PSI 15.8#            DROP CLOSING PLUG BY HAND            START DISPLACEMENT 6BPM 300PSI TOTAL DISPLACEMENT 88.6BBLS            SLOW RATE TO 4BPM 80BBLS GONE 1300PSI            LAND PLUG AND CLOSE DV TOOL 1300PSI TO 3270PSI TO MAKE SURE DV-TOOL WAS CLOSED.            BLED BACK 1BBL.            WASH SURFACE LINES UP.</p> <p>NOTE: FIRST &amp; SECOND STAGES BOTH GOT 20BBLS OF CEMENT TO SURFACE.            R/D SCHLUMBERGER CEMENTERS</p>
1/29/2016	0:00 - 1:30	1.50	CSGPRO	12	B	P	9996	
	1:30 - 2:30	1.00	CSGPRO	12	C	P	9996	INSTALL 4.5" PACKOFF W/ CAMERON REP. START TRANSFERING MUD TO TANK FARM.
	2:30 - 7:30	5.00	CSGPRO	14	A	P	9996	<p>NIPPLE DOWN FLOW LINE F/ STACK TO SHAKERS, REMOVE MUD CROSS VALVES, OPEN RAM DOORS AND REMOVE BLIND &amp; PIPE RAMS, WASH OUT INSIDE STACK AND CLOSE BACK, PULL ROTATING HEAD ASSEMBLY, POWER DOWN ACCUMULATOR AND REMOVE ALL HYDRAULIC LINES. FLUSH AND BLOW DOWN ALL SURFACE LINES. FINISH TRANSFERING MUD OUT F/ ACTIVE SYSTEM, PRE MIX TANKS AND SHAKER TANKS. START WASHING AND CLEANING MUD TANKS.</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:30 - 15:00	7.50	CSGPRO	01	E	P	9996	CONTINUED CLEANING MUD TANKS, PRE-MIX TANKS, SHAKER TANKS WITH BROKEN SPOKE RIG WASHERS. RIG CREW CONTINUED WITH RIGGING DOWN BACK YARD, RIG FLOOR. ZECO POWERED DOWN ALL EQUIPMENT AND LOADED OUT CENTRIFUGES, PRE-MIX, POWER UNIT, HIGH WALL TANKS, HOSES, PUMPS AND MANIFOLDS. RELEASED RIG TO STACK YARD @ 15:00 HRS 01-29-2016
	15:00 - 18:00	3.00	RDMO	01	F	P	9996	R/D RIG FLOOR, PIN TOP DRIVE IN DERRICK, PREPARE TO UNSTRING BLOCKS, LOAD OUT ALL 4" DRILL PIPE TO NOV YARD FOR INSPECTION
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	UNSTRING BLOCKS, SECURE KELLY HOSE AND SERVICE LOOP IN DERRICK, RAISE RACKING BOARD IN DERRICK, R/D WINCH LINES, REMOVE WIND WALLS, BREAK APART SUCTION LINES AND CLEAN, R/D POP OFF LINES, BLEED DERRICK RAMS TO LAY DERRICK OVER.
1/30/2016	0:00 - 18:00	18.00	RDMO	01	F	P	9996	LAY DERRICK OVER (DERRICK DOWN @ 00:45), R/D SHAKER MANIFOLD AND FLOWLINE ON PITS, R/D ELECTRICAL AND HANDRAILS ON PITS. PULL PITS APART AND CLEAN ALL SIDES. STAGGED AND CLEANED BOILER, CAT WALK, A/C HOUSE, CHANGE HOUSE FOR RIG MOVE IN THE MORNING. OIL BUNKER WAS DRAINED INTO DRUMS. PRESSURE WASHED ALL WINDWALLS, STAIRWAYS AND INSIDE OF BUILDINGS.  4 HAUL TRUCKS ARRIVED @ 14:30 AND HAULED OFF - 7 MATTING BOARDS AND 5 PIPE TUBS
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	NO ENSIGN NIGHT CREW BUT CONTINUED TO PRESSURE WASH RIG W/ ROUSTABOUTS.
1/31/2016	0:00 - 8:00	8.00	RDMO	01	F	P	9996	CONTINUED TO PRESSURE WASH RIG W/ ROUSTABOUTS WHILE WAITING ON DAY LIGHT.
	8:00 - 18:00	10.00	RDMO	01	F	P	9996	BREAK BUILDINGS AND PREP FOR HAUL. CLEAN OFF AND STACK ALL MAT BOARDS. PULL BACK YARD APART, CLEAN OUT ALL BUILDINGS OF ANYTHING NOT BOLTED OR WELDED DOWN AND LOAD OUT IN BOX TRAILER. BREAK DERRICK AND LOAD ON TRUCKS. LOWER DOG HOUSE AND PREP FOR HAUL. CLEAN AND LOAD ALL HAND RAILS, WIND WALLS, FLOW LINE MISC EQUIPMENT INTO JUNK TUBS.  12 HAUL TRUCKS BROUGHT IN 4- TRAILERS (BOTH MUD TANKS, WATER TANK & PRE-MIX) HAD BROKEN AXEL U-BOLTS STAGED OFF LOCATION WAITING FOR REPAIR. 1- HAUL TRUCK HAD THE FUEL INJECTORS GO OUT, ITS IN ROCK SPRINGS NOW FOR REPAIR.
	18:00 - 6:00		RDMO	01	F	P	9996	WAIT ON DAYLIGHT
2/1/2016	0:00 - 7:00	7.00	RDMO	01	F	P	9996	WAIT ON DAY LIGHT

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date:

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:00 - 18:00	11.00	RDMO	01	F	P	9996	<p>HAULED OFF LOCATION #1MP, #2MP, #1 GEN, #2 GEN, BOILER, COMBO HOUSE, CROWN SECTION, A-LEG SECTION, DOG HOUSE SUB-HALF, DEADMAN BLOCK, 1 JUNK TUB AND UMBILICAL FESTOON. EQUIPMENT WAS TAKEN TO RW-JONES YARD IN VERNAL. ALL ANADARKO EQUIPMENT FUEL CUBE, BIT HOUSE, (2) MUD BINS, 2 SETS OF PIPE RACKS AND MATTING BOARDS WERE HAULED TO ANADARKO MUD FACILITIES. LOADS THAT LEFT LOCATION HEADED TO STACK YARD ARE GAS BUSTER, MATTING BOARDS AND 1 JUNK BASKET.</p> <p>WEATHER PERMITTING LAST 10 LOADS WILL LEAVE LOCATION TOMORROW AND HEAD TO STACK YARD. WESTROCK TRUCKING WILL BE MOVING TRAILERS OFF LOCATION IN THE MORNING.</p> <p>RIG WASH CREW RELEASED @ 14:00HRS. 100% RIGGED DOWN WITH 75% MOVED OFF LOCATION</p> <p>12 HAUL TRUCKS BROUGHT IN 4- TRAILERS (BOTH MUD TANKS, WATER TANK &amp; PRE-MIX) HAD BROKEN AXEL U-BOLTS STAGED OFF LOCATION STILL WAITING FOR REPAIR.</p>
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	WAIT ON DAY LIGHT

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>PHONE NUMBER:</b> 720 929-6507		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2016	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;">           Drilled production to 9,996 ft. during Quarter 1 of 2016. Waiting for completion. Thank you.         </div> <div style="width: 35%; text-align: center;"> <b>Accepted by the              Utah Division of              Oil, Gas and Mining              FOR RECORD ONLY              March 31, 2016</b> </div> </div>		
<b>NAME (PLEASE PRINT)</b> Jennifer Thomas	<b>PHONE NUMBER</b> 720 929-6808	<b>TITLE</b> Regulatory Specialist
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/30/2016	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-2314CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/28/2016	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> No activity for Quarter 2 of 2016. Well drilled to 9,996 ft. Thank you.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          June 29, 2016</b>		
<b>NAME (PLEASE PRINT)</b> Kristina Geno		<b>PHONE NUMBER</b> 720 929-6824
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 6/28/2016		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/29/2016	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> No activity for Quarter 3 of 2016. Well drilled to 9,996 ft. Thank you.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> October 04, 2016		
<b>NAME (PLEASE PRINT)</b> Candice Barber		<b>PHONE NUMBER</b> 435 781-9749
<b>SIGNATURE</b> N/A		<b>TITLE</b> HSE Representative
<b>DATE</b> 9/29/2016		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0149075
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-23I4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0377 FSL 1195 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 23 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047527470000
<b>10. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>COUNTY:</b> UINTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>STATE:</b> UTAH
<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 11/11/2016  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<b>TYPE OF ACTION</b>  <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input checked="" type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The NBU 921-23I4CS well was placed on production on 11/11/2016 after a new well completion and is now producing from the Wasatch/Mesaverde formation.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> November 28, 2016		
<b>NAME (PLEASE PRINT)</b> Candice Barber		<b>PHONE NUMBER</b> 435 781-9749
<b>SIGNATURE</b> N/A		<b>TITLE</b> HSE Representative
<b>DATE</b> 11/15/2016		

Form 3160-4  
(August 2007)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____				5. Lease Serial No. UTU0149075	
2. Name of Operator KERR-MCGEE OIL AND GAS ONSHORE				6. If Indian, Allottee or Tribe Name	
3. Address   PO BOX 173779 DENVER, CO 80217				7. Unit or CA Agreement Name and No. UTU63047A	
4. Location of Well (Report location clearly and in accordance with Federal requirements)*  At surface   SESE 377FSL 1195FEL  At top prod interval reported below   SESE 1585FSL 498FEL  At total depth   SESE 1535 FSL 473 FEL				8. Lease Name and Well No. NBU 921-2314CS  9. API Well No. 43-047-52747	
14. Date Spudded 12/26/2013		15. Date T.D. Reached 01/27/2016		10. Field and Pool, or Exploratory NATURAL BUTTES  11. Sec., T., R., M., or Block and Survey or Area   Sec 23 T9S R21E Mer SLB  12. County or Parish UINTAH	
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 11/11/2016		13. State UT		17. Elevations (DF, KB, RT, GL)* 4911 KB	
18. Total Depth:       MD   9996 TVD   9802		19. Plug Back T.D.:   MD   9939 TVD   9745		20. Depth Bridge Plug Set:   MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CBL				22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)	

## 23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
24.000	14.000 STL	36.7	0	40		81			
11.000	8.625 J55	28.0	13	2937		585			
7.875	4.500 P110	11.6	13	9986		1936		1930	

## 24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	9530							

## 25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WASATCH	5014	7906	7795 TO 7893	0.410	15	OPEN
B) MESAVERDE	7906	9996	7954 TO 9881	0.410	177	OPEN
C)						
D)						

## 26. Perforation Record

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7795 TO 9881	PUMP 219,021 BBLs SLICKWATER, 55 BBLs 15%HCL ACID, 306,507 LBS 30/50 MESH SAND

## 28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/11/2016	12/06/2016	24		37.0	2535.0	2965.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. 1362 SI	Csg. Press. 2171.0	24 Hr. Rate	Oil BBL 37	Gas MCF 2535	Water BBL 2965	Gas:Oil Ratio	Well Status PGW	

## 28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #360441 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

RECEIVED: Dec. 08, 2016

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(*Sold, used for fuel, vented, etc.*)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1555 1845 2349 5014 7906

32. Additional remarks (include plugging procedure):

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #360441 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal**

Name(*please print*) CANDICE M BARBER

Title REGULATORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission)

Date 12/08/2016

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**RECEIVED:** Dec. 08, 2016

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN				Spud date: 1/24/2014					
Project: UTAH-UINTAH				Site: NBU 921-23P PAD				Rig name no.: ENSIGN 145/145, CAPSTAR 310/310	
Event: DRILLING				Start date: 1/24/2014				End date: 2/8/2016	
Active datum: RKB @4,911.00usft (above Mean Sea Level)				UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
1/24/2014	2:30 - 3:30	1.00	MIRU	01	E	P	53	CUT OFF CONDUCTOR / RIG DOWN	
	3:30 - 5:00	1.50	MIRU	01	C	P	53	CONDUCT JSA WITH TRUCKS TO SKID RIG / SKID RIG TO THE NBU 921-23I4CS, WELL 5 OF 6. HOWCROFT FIELD SERVICES HAD 2 TRUCKS 1 SWAMPER 1 PUSHER/SAFETY MAN	
	5:00 - 8:30	3.50	MIRU	01	B	P	53	RIG UP / WELD ON ROTATING HEAD / RIG UP FLOW LINE	
	8:30 - 9:00	0.50	MIRU	01	B	P	53	PICK UP BHA / TRIP IN HOLE	
	9:00 - 9:30	0.50	MIRU	23		P	53	PRE SPUD SAFETY MEETING	
	9:30 - 11:00	1.50	DRLSUR	02	B	P	53	DRILL 12 1/4" SURFACE HOLE F/ 49' TO 200' , 151' @ 100.6 FPH WOB = 8 TO 12K ROTARY RPM = 65 MUD MOTOR RPM = 111 TOTAL = 166 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 850/650 TORQUE ON/OFF = 2100/1500 PU = 28/ SO = 16 / ROT = 26 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 NO HOLE ISSUES.	
	11:00 - 13:00	2.00	DRLSUR	06	A	P	204	TRIP OUT OF HOLE LAY DOWN 12 1/4" PICK UP 11" BIT AND DIRECTIONAL TOOLS / SCRIB AND TRIP IN HOLE	
	13:00 - 15:00	2.00	DRLSUR	02	B	P	204	DRILL 11" SURFACE HOLE F/ 200' TO 420', 220' @ 138.7 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 44 / SO = 40 / ROT = 42 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 280' = 12.79% 1.5' ABOVE & .9' RIGHT OF THE LINE NO HOLE ISSUES	
	15:00 - 15:30	0.50	DRLSUR	07	C	P	424	CHANGE ROTATING HEAD RUBBER	

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	15:30 - 17:00	1.50	DRLSUR	02	B	P	424	DRILL 11" SURFACE HOLE F/ 420' TO 540', 120' @ 80 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 55 / SO = 44 / ROT = 48 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 66' = 16.26% 3.76' ABOVE & .83' RIGHT OF THE LINE NO HOLE ISSUES
	17:00 - 17:30	0.50	DRLSUR	07	A	P	544	RIG SERVICE
	17:30 - 0:00	6.50	DRLSUR	02	B	P	544	DRILL 11" SURFACE HOLE F/ 540' TO 1,253', 713' @ 109.7 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,530/450 PU = 44 / SO = 40 / ROT = 42 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 171' = 26.39% 9.9' ABOVE & 7.9' RIGHT OF THE LINE NO HOLE ISSUES
1/25/2014	0:00 - 6:00	6.00	DRLSUR	02	B	P	1257	DRILL 11" SURFACE HOLE F/ 1,253' TO 1,705', 452' @ 75.3 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 111 / TOTAL = 171 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 75 / SO = 60 / ROT = 66 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 39' = 8.67% 6.71' ABOVE & 5.12' RIGHT OF THE LINE NO HOLE ISSUES

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	6:00 - 12:00	6.00	DRLSUR	02	B	P	1709	DRILL 11" SURFACE HOLE F/ 1,705' TO 2,178', 473' @ 78.8 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 80 / SO = 66 / ROT = 72 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 58' = 12.24% 8.33' ABOVE & 1.30' RIGHT OF THE LINE NO HOLE ISSUES
	12:00 - 16:00	4.00	DRLSUR	02	B	P	2182	DRILL 11" SURFACE HOLE F/ 2,178' to 2,474', 296' @ 74 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 84 / SO = 74 / ROT = 78 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 20' = 4.84% 6.83' ABOVE & 1.66' RIGHT OF THE LINE NO HOLE ISSUES
	16:00 - 16:30	0.50	DRLSUR	07	A	P	2478	RIG SERVICE
	16:30 - 23:30	7.00	DRLSUR	02	B	P	2478	DRILL 11" SURFACE HOLE F/ 2,474' to 2,955', 501' @ 71.6 FPH WOB = 15 TO 20K ROTARY RPM = 60 / MUD MOTOR RPM = 81 / TOTAL = 141 PUMPING 650 GPM @ 200 SPM STAND PIPE PRESSURE ON/OFF = 900/650 TORQUE ON/OFF = 2,950/2000 PU = 105 / SO = 75 / ROT = 85 PEAK ON LINE ARCHER OFF LINE MUD WT 8.4 SLID 28' = 7.67% 5.34' ABOVE & 1.27' RIGHT OF THE LINE NO HOLE ISSUES
	23:30 - 0:00	0.50	CSGSUR	05	A	P	2959	CIRCULATE AND CONDITION HOLE FOR CASING
1/26/2014	0:00 - 0:30	0.50	CSGSUR	05	A	P	2959	CIRCULATE AND CONDITION HOLE
	0:30 - 4:30	4.00	CSGSUR	06	D	P	2959	LAY DOWN DRILL PIPE AND BHA
	4:30 - 5:00	0.50	CSGSUR	12	A	P	2959	CHANGE OVER TO RUN CASING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	5:00 - 7:30	2.50	CSGSUR	12	C	P	2959	PREJOB SAFETY WITH RIG CREW. RAN 64 JTS OF 8 5/8", 28#, J-55, LT&C CASING WITH CTE FLOAT GUIDE SHOE AND BAFFLE PLATE LOCATED 1 JOINT ABOVE THE SHOE. 5 CENTRALIZERS SPACED 10' ABOVE THE SHOE, 2ND & 3RD COLLARS, AND EVERY THIRD COLLAR TO 2,519'. LANDED CASING SHOE AT 2,933'. BAFFLE PLATE @ 2,885'
	7:30 - 10:30	3.00	CSGSUR	12	E	P	2959	PREJOB SAFETY MEETING WITH PRO PETRO CEMENTERS & RIG CREW. RAN 200' OF 1" PIPE DOWN BACKSIDE OF CASING TESTED LINES TO 1500 PSI PUMPED 20 BBLS FRESH WATER CLEARING SHOE RETURNS TO SURFACE MIXED AND PUMPED 20 BBL GELLED WATER FLUSH AHEAD OF CEMENT MIXED AND PUMPED 300 SX OF PREMIUM LEAD CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 152.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. MIXED AND PUMPED 225 SX OF PREMIUM TAIL CEMENT WITH 2% CACL2 & 1/4 LB/SX FLOCELE. 35.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. DROP PLUG ON FLY. DISPLACE CEMENT WITH 180 BBL FRESH WATER. NO RETURNS THROUGH OUT DISPLACEMENT. FINAL LIFT OF 600 PSI @ 3 BBL/MINUTE. BUMP PLUG WITH 700 PSI. HELD 1000 PSI FOR 5 MINUTES. 15 BBLS CEMENT TO SURFACE, FELL BACK CHECK FLOAT. FLOAT HELD. TOP JOB # 1: PUMP CEMENT DOWN 1" PIPE WITH 60 SX PREMIUM CEMENT WITH 4% CACL2, 2% GR-3, & 1/4 LB/SX FLOCELE. 12.8 BBL OF SLURRY MIXED @ 15.8 PPG WITH YIELD OF 1.15 CF/SX. CEMENT TO SURFACE STOOD FULL  RELEASE RIG @ 10:30 1/26/2014  RELEASE CEMENTERS @ 10:30 1/26/2014
1/20/2016	12:00 - 12:30	0.50	MIRU3	01	C	P	2959	SKID RIG WHILE CLEANING PITS ON LAST WELL.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	12:30 - 13:00	0.50	PRSPD	15	A	P	2959	PRESSURE TEST CASING TO 1500 PSI FOR 30 MINUTES.HOLD SAFETY MEETINGS WITH A-1 TESTING RIG UP TESTER AND TEST BOPE. PRESSURE TEST CASING TO 1500 PSI FOR 30 MINUTES. TEST ANNULAR TO 250 PSI LOW/ 5 MIN 2500 PSI HIGH 10 MIN. TEST PIPE & BLIND RAMS, 4" AND 4.5 FLOOR VALVES AND DART VALVE, IBOP, HCR VALVE, KILL LINE VALVES, TEST BOPS, CHOKES AND CHOKE MANIFOLD VALVES TO 250 PSI LOW / 5 MIN - 5000 PSI HIGH / 10 MIN. HOLD ACCUMULATOR FUNCTION TEST, & TEST RIG DOWN TESTER. INSTALL WEAR BUSHING SLIP AND CUT DRILL LINE. LAY OUT BHA, DRIFT AND TALLY 4.5" HWPD. CHANGE OUT SAVER SUB (FILL PITS WITH WATER BASE MUD 12# AND START CUTTING MUD) PRESSURE TESTED WHILE CLEANING PITS.
	13:00 - 15:30	2.50	CSGSUR	06	A	P	2959	PICK UP BAKER 5:6 3.0 STAGE .16REV 1.5ABH / -.004 FIT AND MAKE UP SMITH Z616 W/ 6-16'S. JK6435. PICK UP TOTAL DIRECTIONAL MWD TOOLS, AND SCRIBE MOTOR. TRIP IN HOLE, PICKING UP 30 JTS OF 4.5" HWD. TRIP IN HOLE TO 2900'.
	15:30 - 17:30	2.00	CSGSUR	06	A	P	2959	TRIP IN THE HOLE F/ 1043' T/ 2750'
	17:30 - 19:30	2.00	DRLPRC	02	F	P	2959	DRILL CEMENT AND 8 5/8" SHOE TRACK F/ 2,870' - T/ 2,959' - SPM 80 @ 304GMP w/ 802psi, RPM 30 BAFFLE @ 2,889', SHOE @ 2,937'
	19:30 - 0:00	4.50	DRLPRC	02	D	P	2959	DIRECTIONAL DRILL F/ 2,959' - T/3,219' ( 260' @ 65' /FPH ) TOTAL BIT HRS 3.5, TOTAL CIRC HRS 5.8 HRS WEIGHT ON BIT = 18/25 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 4-6K STPP = 1850 OFF BOTTOM = 1,650 STRING WEIGHT UP/DOWN/ROTATING = 95 / 80 / 83 BIT POSISTION:2.87' Low / 7.24 Left MUD WEIGHT WBM = 9.3 PPG VISCOSITY = 73 SECONDS
1/21/2016	0:00 - 16:30	16.50	DRLPRC	02	D	P	3219	DIRECTIONAL DRILL 3,219'- 4452 ( 1233' @ 99.4' /FPH @ 12.4HRS ) TOTAL BIT HRS 15.9, TOTAL CIRC HRS 20.9 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 5.7-9.7K STPP = 1980 OFF BOTTOM = 2400 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 134 / 110 / 117 BIT POSISTION:2.87' Low / 7.24 Left MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 40 SECONDS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:30 - 17:00	0.50	DRLPRC	07	A	P	4452	LUBRICATE RIG AND TOP DRIVE, GREASE BLOCKS AND SWIVEL
	17:00 - 0:00	7.00	DRLPRC	02	D	P	4452	DIRECTIONAL DRILL 4,452'- 4948' ( 496' @ 70.85' /FPH @ 6.7HRS ) TOTAL BIT HRS 21.8, TOTAL CIRC HRS 27.5 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 5.7-10K STPP = 2120 OFF BOTTOM = 2450 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 125 / 90 / 101 BIT POSISTION: 157' Low / 28.03' Left MUD WEIGHT WBM = 8.9 PPG VISCOSITY = 42 SECONDS
1/22/2016	0:00 - 16:00	16.00	DRLPRC	02	D	P	4948	DIRECTIONAL DRILL 4948'- 6256' ( 1308' @ 97' /FPH @ 13.5HRS ) TOTAL BIT HRS 35.3, TOTAL CIRC HRS 42.6 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-10.1K STPP = 2700 OFF BOTTOM = 2300 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 156 / 110 / 134 BIT POSISTION: MUD WEIGHT WBM = 9.1 PPG VISCOSITY = 39 SECONDS STARTED SEEING SEEPAGE AT 5729' @ 6 BBLs HR. CONTINUE TO DRILL AHEAD. PUMP HIGH VIS SWEEP EVERY OTHER CONNECTION TO CLEAN HOLE. NO LCM SWEEPS PUMPED.
	16:00 - 16:30	0.50	DRLPRC	07	A	P	6256	RIG SERVICE. SERVICE TOP DRIVE BLOCKS AND CROWN.
	16:30 - 0:00	7.50	DRLPRC	02	D	P	6256	DIRECTIONAL DRILL 6256' - 6769' ( 513' @ 81.4' /FPH @ 6.3 HRS ) TOTAL BIT HRS 41.6, TOTAL CIRC HRS 49.9' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE = 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-11.5K STPP = 2700 OFF BOTTOM = 2300 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 180 / 115 / 135 BIT POSISTION: 18.3' North / 5.57' West MUD WEIGHT WBM = 9.1 PPG VISCOSITY = 39 SECONDS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
1/23/2016	0:00 - 5:45	5.75	DRLPRC	02	D	P	6769	DIRECTIONAL DRILL 6769'- 7041' ( 272' @ 54.4' /FPH @ 5 HRS ) TOTAL BIT HRS 5, TOTAL CIRC HRS 55.5' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 156 GALLONS PER MINUTE = 599 MUD MOTOR RPM = 96 TOP DRIVE RPM = 50 TOTAL RPM = 146 FT/LBS TORQUE = 8.8-11.5K STPP = 2750 OFF BOTTOM = 2350 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 197 / 124 / 144 BIT POSITION: MUD WEIGHT WBM = 9.1 PPG VISCOSITY = 37 SECONDS
	5:45 - 9:45	4.00	DRLPRC	22	G	X	7041	LOST FULL CIRCULATION.. PUMP 2- 15 BBLS 12% LCM SWEEPS. REGAINED CIRCULATION PARTIALLY AS SWEEPS WENT PAST LOST ZONE AT 7041' THEN LOSS ALL RETURNS AGAIN. MIX UP 24 BBLS 20% LCM SWEEP WITH DIAMOND SEAL AND PUMP. PUMP PILL JUST OUTSIDE OF PIPE AND TRIP UP 5 STANDS. PUMP TILL 20 BBLS HAD GONE INTO FORMATION AT 80 GPM MINUTE. SHUT DOWN AND KEEP PIPE MOVING TO MAKE SURE HOLE WAS NOT GETTING TIGHT. WAIT 1 HOUR AND START TO CIRCULATE WITH HIGH LOSSES (150 BBLS /HR @ 80 GPM). PUMP ANOTHER 20% LCM AND DIAMOND SEAL SWEEP AND LET FALL INTO LOSS ZONE. WHEN SWEEP FELL INTO LOSS CIRCULATION ZONE REGAINED MOST OF RETURNS. WASH BACK TO BOTTOM, BUILDING PUMP UP TO 400 GPM WITH 35 BBL/HR LOSS. TIME 50 BBL 25% LCM SWEEP TO COME OUT OF BIT, WHILE STARTING TO DRILL. HOLE HEALED UP.. CONTINUE TO PUMP 5 BBL 20% EVERY 30 MINUTES TO MAINTAIN LOSSES.
	9:45 - 16:00	6.25	DRLPRC	02	D	P	7041	DIRECTIONAL DRILL 7041'- 7246' ( 205' @ 39.4' /FPH @ 5.2 HRS ) TOTAL BIT HRS 46.6, TOTAL CIRC HRS 64.6' HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 70 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2200 OFF BOTTOM = 1825 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 189 / 120 / 146 BIT POSITION: MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY 30 MINUTES
	16:00 - 16:30	0.50	DRLPRC	07	A	P	7246	RIG SERVICE. SERVICE TOP DRIVE, BLOCKS AND CROWN

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:30 - 0:00	7.50	DRLPRC	02	D	P	7246	DIRECTIONAL DRILL 7246'- 7532' ( 286' @ 41.4' /FPH @ 6.9 HRS ) TOTAL BIT HRS 58.8, TOTAL CIRC HRS 72.2 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 194 / 124 / 141 BIT POSITION: MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY 30 MINUTES
1/24/2016	0:00 - 1:00	1.00	DRLPRC	02	D	P	7532	DIRECTIONAL DRILL 7532'- 7573' (45.5' @ 41' /FPH @ .9 HRS ) TOTAL BIT HRS 59.7, TOTAL CIRC HRS 73.2 HRS WEIGHT ON BIT = 18/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 194 / 124 / 141 BIT POSITION: MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	1:00 - 2:00	1.00	DRLPRC	22	G	P	7573	LOST COMPLETE CIRCULATION. (STOOD BACK 1 STAND TO BE ABLE TO WORK PIPE) MIX AND PUMP 20 BBLs 20% LCM SWEEP. BEFORE SWEEP REACHED FORMATION RETURNS CAME BACK AND HEALED. FILLED A POSSIBLE VOID. LOSS 90 BBLs. (TRIP BACK IN WITH THE 1 STAND OF DRILL PIPE.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	2:00 - 14:00	12.00	DRLPRC	02	D	P	7573	DIRECTIONAL DRILL 7573'- 8049' (476' @ 49 /FPH @ 9.7 HRS ) TOTAL BIT HRS 69.4, TOTAL CIRC HRS 85.4 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-10.7K STPP = 2050 OFF BOTTOM = 1780 DIFF 350-450 STRING WEIGHT UP/DOWN/ROTATING = 198 / 124 / 144 BIT POSITION: MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	14:00 - 14:30	0.50	DRLPRC	07	A	P	8049	RIG SERVICE. SERVICE TOP DRIVE AND BLOCKS. CHANGE BALE TILT RAM.
	14:30 - 18:00	3.50	DRLPRC	02	D	P	8049	DIRECTIONAL DRILL 8049'- 8213' (164' @ 51' /FPH @ 3.2 HRS ) TOTAL BIT HRS 72.7, TOTAL CIRC HRS 89.5 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 2050 OFF BOTTOM = 1800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 198 / 124 / 144 BIT POSITION: MUD WEIGHT WBM = 9.0 PPG VISCOSITY = 35 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
	18:00 - 21:00	3.00	DRLPRC	05	G	P	8213	WE TRANFERED THE HEAVY MUD INTO THE SYSTEM AT 200 GPM 39 VIS / 11.8 MW 5%-10% LCM ESTIMATED LOSSES WHILE DISPLACING 30 BBL. MUD

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	21:00 - 0:00	3.00	DRLPRC	02	D	P	8213	DIRECTIONAL DRILL 8213'- 8337' (124' @ 51' /FPH @ 2.4HRS ) TOTAL BIT HRS 75.1, TOTAL CIRC HRS 95.2 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 130 GALLONS PER MINUTE = 500 MUD MOTOR RPM = 80 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 3100 OFF BOTTOM = 2800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 181 / 126 / 140 BIT POSISTION: 11.18' North / 1.89' East MUD WEIGHT WBM = 10.9 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP EVERY HOUR
1/25/2016	0:00 - 9:00	9.00	DRLPRC	02	D	P	8337	DIRECTIONAL DRILL 8337'- 8777' (440' @ 53.6' /FPH @ 8.2HRS ) TOTAL BIT HRS 83.3, TOTAL CIRC HRS 103.8 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 138 GALLONS PER MINUTE = 525 MUD MOTOR RPM = 73.5 TOP DRIVE RPM = 50 TOTAL RPM = 120 FT/LBS TORQUE = 8.3-12.5K STPP = 3100 OFF BOTTOM = 2800 DIFF 150-350 STRING WEIGHT UP/DOWN/ROTATING = 200 / 125 / 148 BIT POSISTION: MUD WEIGHT WBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
	9:00 - 9:30	0.50	DRLPRC	07	A	P	8777	RIG SERVICE (SERVICE TOP DRIVE, BLOCKS AND CROWN)
	9:30 - 0:00	14.50	DRLPRO	02	D	P	8777	DIRECTIONAL DRILL 8777'- 9463' (686' @ 52.7' /FPH 13 @ HRS ) TOTAL BIT HRS 96.3, TOTAL CIRC HRS 117.9 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550 MUD MOTOR RPM = 89 TOP DRIVE RPM = 55 TOTAL RPM = 144 FT/LBS TORQUE = 12-16.5K STPP = 3750 OFF BOTTOM = 3550 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 199 / 134 / 151 BIT POSISTION: 3.84' South / 15.78' East MUD WEIGHT WBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
1/26/2016	0:00 - 17:00	17.00	DRLPRO	02	D	P	9463	DIRECTIONAL DRILL 9463'- 9854' (391' @ 27.3' /FPH 14.3 @ HRS ) TOTAL BIT HRS 110.6 TOTAL CIRC HRS 134 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 11.2-13.8K STPP = 3750 OFF BOTTOM = 3550 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 225 / 125 / 158 BIT POSISTION: MUD WEIGHT WBM = 11 PPG VISCOSITY = 38 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
	17:00 - 17:30	0.50	DRLPRO	07	A	P	9854	SERVICE TOP DRIVE, BLOCKS AND CROWN.
	17:30 - 0:00	6.50	DRLPRO	02	D	P	9854	DIRECTIONAL DRILL 9854'- 9939' (85' @ 14' /FPH 6 @ HRS ) TOTAL BIT HRS 116.8 TOTAL CIRC HRS 140.8 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 12-17K STPP = 3800 OFF BOTTOM = 3650 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 213 / 124 / 155 BIT POSISTION: 23.2' South / 23.01' East MUD WEIGHT WBM = 11.3 PPG VISCOSITY = 40 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS
1/27/2016	0:00 - 4:30	4.50	DRLPRO	02	D	P	9939	DIRECTIONAL DRILL 9939'-9996' (57' @ 14.6' /FPH @ 3.9 HRS ) TD 1/27/2016 04:30. TOTAL BIT HRS 120.7 TOTAL CIRC HRS 145.7 HRS WEIGHT ON BIT = 25/30 K STROKES PER MINUTE - 144 GALLONS PER MINUTE = 550-525 MUD MOTOR RPM = 89-73.5 TOP DRIVE RPM = 55 TOTAL RPM = 128 FT/LBS TORQUE = 12-17K STPP = 3800 OFF BOTTOM = 3650 DIFF 150-250 STRING WEIGHT UP/DOWN/ROTATING = 214 / 120 / 155 BIT POSISTION: MUD WEIGHT WBM = 11.3 PPG VISCOSITY = 40 SECONDS PUMPING AT 500 - 550 GPM TO MAINTAIN CIRCULATION. PUMP 1-5 BBL 20% LCM SWEEP 2 HOURS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	4:30 - 5:30	1.00	CSGPRO	05	F	P	9996	CIRCULATE AT 525 GPM WITH 3500 PSI. CIRCULATE AROUND HIGH VIS SWEEP WITH LCM. 20% INCREASE IN CUTTINGS COMING OUT WITH SWEEP. HOLE CLEANED UP. NO FLOW ON FLOW CHECK. READY 30 BBLs 12.8# SLUG AND HOLD.
	5:30 - 10:30	5.00	CSGPRO	06	D	P	9996	PUMP 3 STANDS OUT OF HOLE TILL PIPE COULD BE PULLED BELOW 250K OVER. PULL 4 STANDS TILL PIPE GOOD AND FREE AND PUMP DRY JOB. START LAYING DOWN DRILL PIPE FROM 7300'. HOLE TAKING SLIGHTLY MORE MUD TO KEEP HOLE FILL ON TRIP OUT.. NO TIGHT HOLE TILL 6095'.
	10:30 - 11:30	1.00	CSGPRO	03	A	P	9996	TRY TO WORK THROUGH TIGHT SPOT. UNABLE TO WORK THROUGH TIGHT SPOT WITH OUT PUMP. TURN ON PUMP AND ESTABLISH CIRCULATION. WHILE WORKING THROUGH TIGHTS SPOT LOST FULL CIRCULATION, BECAUSE OF HEAVY PILL AND RETRICTION OF FLOW WORKING THROUGH TIGHT SPOT. WORK UP THROUGH TIGHT SPOT TO 6000.
	11:30 - 14:30	3.00	CSGPRO	22	G	X	9996	TRIP BACK TO 7821' WITH REMAINING STANDS IN DERRICK TO JUST ABOVE LOSS ZONE AT 7060'. PUMP 40 BBLs 20% LCM SWEEP WITH DIAMOND SEAL, CEDER FIBER, MULTISEAL AND OPTI SEAL. CIRCULATE SWEEP DOWN TO LOSS ZONE. STARTED REGAINING PARTIAL RETURNS.. UPPED PUMP TO 400 GPM SO HOLE WOULD TAKE PILL INTO LOSS ZONE. MOST OF PILL WENT INTO FORMATION AND HOLE HEALED WITH NO LOSSES WHILE PUMPING 190 GPM. CIRCULATED WHILE MAKING UP 30 BBL 20% LCM SWEEP. WASH DOWN FORM 7821-7130'. PAST LOST ZONE, TIME SWEEP SO THAT IT WAS COMING OUT OF PIPE AS WASHING PAST LOST ZONE. HOLE HOLDING 100% AT 233 GPM. PUMP 15 BBL 12.5# DRY JOB.
	14:30 - 15:30	1.00	CSGPRO	06	D	P	9996	BLOW DOWN TOP DRIVE AND TRIP OUT LAYING DOWN DRILL PIPE FROM 7130'. PULL OUT OF HOLE NO TIGHT HOLE TILL 6095'. PULL THROUGH WITH NO PROBLEMS TO 5930', BUT UNABLE TO FILL HOLE AFTER PULLING THROUGH. PUMP AWAY 40 BBLs TRYING TO FILL HOLE.
	15:30 - 17:00	1.50	CSGPRO	22	G	X	9996	BUILD 80 BBL 20% LCM SWEEP. START PUMPING SWEEP AND BEFORE ADDING DIAMOND SEAL REGAINED FULL CIRCULATION AFTER LOSING 20 BBLs. CONTINUE PUMPING BOTTOMS UP TO MAKE SURE THERE WAS NO GAS. PUMPED LCM OUT OF PIPE AND PUMPED 15 BBL 11.5 DRY JOB.
	17:00 - 23:30	6.50	CSGPRO	06	D	P	9996	CONTINUE TO LAY DOWN 4" DRILL PIPE F/ 5,930' - T/ 121'
	23:30 - 0:00	0.50	CSGPRO	06	D	P	9996	LAY DOWN BHA
1/28/2016	0:00 - 1:00	1.00	CSGPRO	06	D	P	9996	CONTINUE LAY DOWN BHA
	1:00 - 1:30	0.50	CSGPRO	12	A	P	9996	CLEAN FLOOR AND PULL WEAR BUSHING
	1:30 - 2:30	1.00	CSGPRO	12	A	P	9996	HOLD SAFETY MEETING WITH FRANKS CASING. RIG UP 6' EXTENSION BALES AND CASING ELEVATORS. RIG UP HYDRAULIC CASING TONGS, AND SLIPS. RIG UP TORQUE TURN. FUNCTION TEST ALL EQUIPMENT

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	2:30 - 14:30	12.00	CSGPRO	12	C	P	9996	MAKE UP 4.5" P-110 WEATHERFORD FLOAT SHOE AND COLLAR WITH THREAD LOCK WITH SHOE JT. RUN IN HOLE WITH 7-7/8" BOW SPRING CENTRALIZERS ON FIRST 3 JTS AND EVERY 3 JT FOR A TOTAL OF 25 CENTRALIZERS WAS RUN. RUN 4.5" P-110 11.6# LT&C CASING T/ 4,999' TOTAL OF 112JTS LT&C. P/U 4.5" CROSSOVER TO DQX, (TOP OF CROSSOVER 4,966' SET DEPTH) CONTINUE TO RUN DQX F/ 5,064' - T/ 9,969' TOTAL OF 112 JTS DQX. MAKE UP CAMERON LANDING MANDREL AND LAND CASING @ 9,986' W/ 105K
								NOTE: MESA MARKER JT BETWEEN JT 46 AND 47, TOP OF MARKER 7,920' - STAGE TOOL BETWEEN JT 96 AND 97, TOP OF STAGE TOOL 5,697'. RAN THREE TOTAL CEMENT BASKETS WITH LOCKING BANDS AROUND STAGE TOOL. SHOE SET @ 9,986', FLOAT SET @ 9,940'
	14:30 - 15:00	0.50	CSGPRO	12	A	P	9996	R/D FRANKS CASING CREW
	15:00 - 16:00	1.00	CSGPRO	12	B	P	9996	R/U SCHLUMBERGER CEMENTERS WHILE CIRCULATING B/U STAGGING MUD PUMP UP SLOWLY F/ 20 SPM (75 GPM) - T/ 61 SPM (233 GPM) @ 305PSI. MAX UNITS 780 W/ NO FLARE AND NO LOSSES.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	16:00 - 0:00	8.00	CSGPRO	12	E	P	9996	<p>PRESSURE TESTED LINES 5000PSI (GOOD).  START PUMPING CHEMICAL WASH 5.3BPM 680PSI  (PUMPED 30BBLS 8.3#)  START 14.5# TAIL CEMENT 6.5BPM @ 630PSI  (TOTAL OF 209.4BBL)  SHUT DOWN/DROP LATCH IN FLEX PLUG BY HAND  START DISPLACEMENT 6BPM @ 150 PSI TOTAL OF  154.4BBLS  LAND PLUG @ 4BPM 1780PSI WENT TO 2557 TO  MAKE SURE LATCH IN PLUG WAS LATCHED  CHECKED PLUG AND FLOATS HELD. BLED 1/2BBL  TO PUMP TRUCK DROPPED OPENING  CONE AND WAIT 40MINS FOR CONE TO LAND IN  STAGETOOL  OPENED DV TOOL @ 835PSI  TURN OVER TO RIG TO CIRCULATE 4 HRS @ 190  GPM (250 PSI)  HOLD PISA WITH CEMENT CREW AND RIG CREW  START 30BBLS OF CHEMICAL WASH 8.3# 6.5BPM  @ 670PSI  START PUMPING LEAD CEMENT 211BBLS 6.5BPM  682PSI 12.5#  START PUMPING TAIL CEMENT 40BBLS 4.3BPM  288PSI 14.5#  START PUMPING TAIL CEMENT 14.6BBLS 4.3BPM  265PSI 15.8#  DROP CLOSING PLUG BY HAND  START DISPLACEMENT 6BPM 300PSI TOTAL  DISPLACEMENT 88.6BBLS  SLOW RATE TO 4BPM 80BBLS GONE 1300PSI  LAND PLUG AND CLOSE DV TOOL 1300PSI TO  3270PSI TO MAKE SURE DV-TOOL WAS CLOSED.  BLED BACK 1BBL.  WASH SURFACE LINES UP.</p> <p>NOTE: FIRST &amp; SECOND STAGES BOTH GOT  20BBLS OF CEMENT TO SURFACE.  R/D SCHLUMBERGER CEMENTERS</p>
1/29/2016	0:00 - 1:30	1.50	CSGPRO	12	B	P	9996	
	1:30 - 2:30	1.00	CSGPRO	12	C	P	9996	INSTALL 4.5" PACKOFF W/ CAMERON REP. START TRANSFERING MUD TO TANK FARM.
	2:30 - 7:30	5.00	CSGPRO	14	A	P	9996	<p>NIPPLE DOWN FLOW LINE F/ STACK TO SHAKERS,  REMOVE MUD CROSS VALVES, OPEN RAM DOORS  AND REMOVE BLIND &amp; PIPE RAMS, WASH OUT  INSIDE STACK AND CLOSE BACK, PULL ROTATING  HEAD ASSEMBLY, POWER DOWN ACCUMULATOR  AND REMOVE ALL HYDRAULIC LINES. FLUSH AND  BLOW DOWN ALL SURFACE LINES. FINISH  TRANSFERING MUD OUT F/ ACTIVE SYSTEM, PRE  MIX TANKS AND SHAKER TANKS. START WASHING  AND CLEANING MUD TANKS.</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:30 - 15:00	7.50	CSGPRO	01	E	P	9996	CONTINUED CLEANING MUD TANKS, PRE-MIX TANKS, SHAKER TANKS WITH BROKEN SPOKE RIG WASHERS. RIG CREW CONTINUED WITH RIGGING DOWN BACK YARD, RIG FLOOR. ZECO POWERED DOWN ALL EQUIPMENT AND LOADED OUT CENTRIFUGES, PRE-MIX, POWER UNIT, HIGH WALL TANKS, HOSES, PUMPS AND MANIFOLDS. RELEASED RIG TO STACK YARD @ 15:00 HRS 01-29-2016
	15:00 - 18:00	3.00	RDMO	01	F	P	9996	R/D RIG FLOOR, PIN TOP DRIVE IN DERRICK, PREPARE TO UNSTRING BLOCKS, LOAD OUT ALL 4" DRILL PIPE TO NOV YARD FOR INSPECTION
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	UNSTRING BLOCKS, SECURE KELLY HOSE AND SERVICE LOOP IN DERRICK, RAISE RACKING BOARD IN DERRICK, R/D WINCH LINES, REMOVE WIND WALLS, BREAK APART SUCTION LINES AND CLEAN, R/D POP OFF LINES, BLEED DERRICK RAMS TO LAY DERRICK OVER.
1/30/2016	0:00 - 18:00	18.00	RDMO	01	F	P	9996	LAY DERRICK OVER (DERRICK DOWN @ 00:45), R/D SHAKER MANIFOLD AND FLOWLINE ON PITS, R/D ELECTRICAL AND HANDRAILS ON PITS. PULL PITS APART AND CLEAN ALL SIDES. STAGGED AND CLEANED BOILER, CAT WALK, A/C HOUSE, CHANGE HOUSE FOR RIG MOVE IN THE MORNING. OIL BUNKER WAS DRAINED INTO DRUMS. PRESSURE WASHED ALL WINDWALLS, STAIRWAYS AND INSIDE OF BUILDINGS.  4 HAUL TRUCKS ARRIVED @ 14:30 AND HAULED OFF - 7 MATTING BOARDS AND 5 PIPE TUBS
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	NO ENSIGN NIGHT CREW BUT CONTINUED TO PRESSURE WASH RIG W/ ROUSTABOUTS.
1/31/2016	0:00 - 8:00	8.00	RDMO	01	F	P	9996	CONTINUED TO PRESSURE WASH RIG W/ ROUSTABOUTS WHILE WAITING ON DAY LIGHT.
	8:00 - 18:00	10.00	RDMO	01	F	P	9996	BREAK BUILDINGS AND PREP FOR HAUL. CLEAN OFF AND STACK ALL MAT BOARDS. PULL BACK YARD APART, CLEAN OUT ALL BUILDINGS OF ANYTHING NOT BOLTED OR WELDED DOWN AND LOAD OUT IN BOX TRAILER. BREAK DERRICK AND LOAD ON TRUCKS. LOWER DOG HOUSE AND PREP FOR HAUL. CLEAN AND LOAD ALL HAND RAILS, WIND WALLS, FLOW LINE MISC EQUIPMENT INTO JUNK TUBS.  12 HAUL TRUCKS BROUGHT IN 4- TRAILERS (BOTH MUD TANKS, WATER TANK & PRE-MIX) HAD BROKEN AXEL U-BOLTS STAGED OFF LOCATION WAITING FOR REPAIR. 1- HAUL TRUCK HAD THE FUEL INJECTORS GO OUT, ITS IN ROCK SPRINGS NOW FOR REPAIR.
	18:00 - 6:00		RDMO	01	F	P	9996	WAIT ON DAYLIGHT
2/1/2016	0:00 - 7:00	7.00	RDMO	01	F	P	9996	WAIT ON DAY LIGHT

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: ENSIGN 145/145, CAPSTAR 310/310

Event: DRILLING

Start date: 1/24/2014

End date: 2/8/2016

Active datum: RKB @4,911.00usft (above Mean Sea Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:00 - 18:00	11.00	RDMO	01	F	P	9996	HAULED OFF LOCATION #1MP, #2MP, #1 GEN, #2 GEN, BOILER, COMBO HOUSE, CROWN SECTION, A-LEG SECTION, DOG HOUSE SUB-HALF, DEADMAN BLOCK, 1 JUNK TUB AND UMBILICAL FESTOON. EQUIPMENT WAS TAKEN TO RW-JONES YARD IN VERNAL. ALL ANADARKO EQUIPMENT FUEL CUBE, BIT HOUSE, (2) MUD BINS, 2 SETS OF PIPE RACKS AND MATTING BOARDS WERE HAULED TO ANADARKO MUD FACILITIES. LOADS THAT LEFT LOCATION HEADED TO STACK YARD ARE GAS BUSTER, MATTING BOARDS AND 1 JUNK BASKET.
								WEATHER PERMITTING LAST 10 LOADS WILL LEAVE LOCATION TOMORROW AND HEAD TO STACK YARD. WESTROCK TRUCKING WILL BE MOVING TRAILERS OFF LOCATION IN THE MORNING.
								RIG WASH CREW RELEASED @ 14:00HRS. 100% RIGGED DOWN WITH 75% MOVED OFF LOCATION
								12 HAUL TRUCKS BROUGHT IN 4- TRAILERS (BOTH MUD TANKS, WATER TANK & PRE-MIX) HAD BROKEN AXEL U-BOLTS STAGED OFF LOCATION STILL WAITING FOR REPAIR.
	18:00 - 0:00	6.00	RDMO	01	F	P	9996	WAIT ON DAY LIGHT
2/2/2016	0:00 - 7:00	7.00	RDMO	01	F	P	9996	WAIT ON DAYLIGHT
	7:00 - 12:00	5.00	RDMO	01	E	P	9996	HPJSM, LOAD OUT 100% OF RIG EQUIPMENT. R/D & M/O STALLION CAMP TRAILERS.

# **ANADARKO PETROLEUM CORP**

**UINTAH COUNTY, UTAH (NAD 27)**

**SW SE SEC. 23 T9S R21E (NBU 921-23P PAD)**

**NBU 921-23I4CS**

**JOB# 2015-162-145 -PRODUCTION**

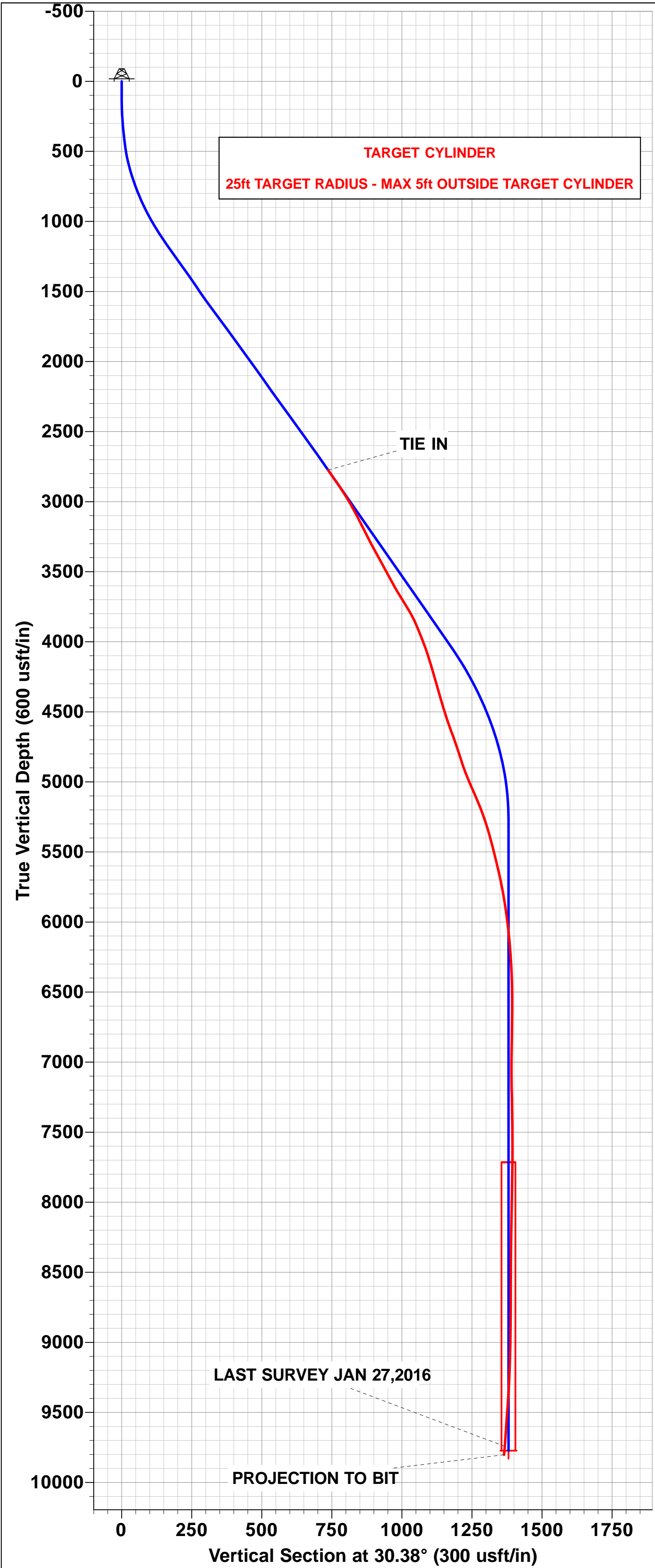
**27 January, 2016**

**Survey: FINAL SURVEYS**



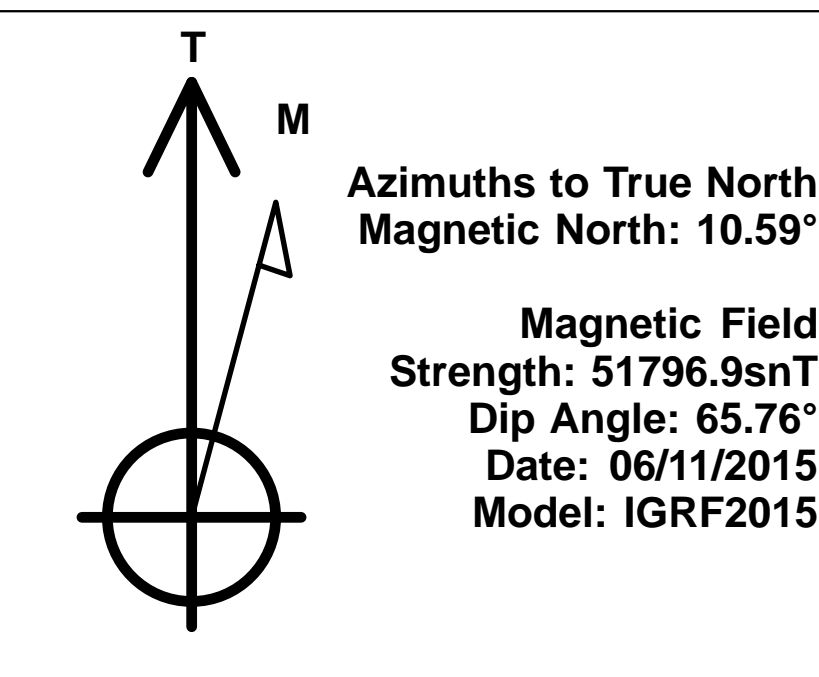


Project: UINTAH COUNTY, UTAH (NAD 27)  
Site: SW SE SEC. 23 T9S R21E (NBU 921-23P PAD)  
Well: NBU 921-23I4CS  
Wellbore: JOB# 2015-162-145 -PRODUCTION  
Design: FINAL SURVEYS



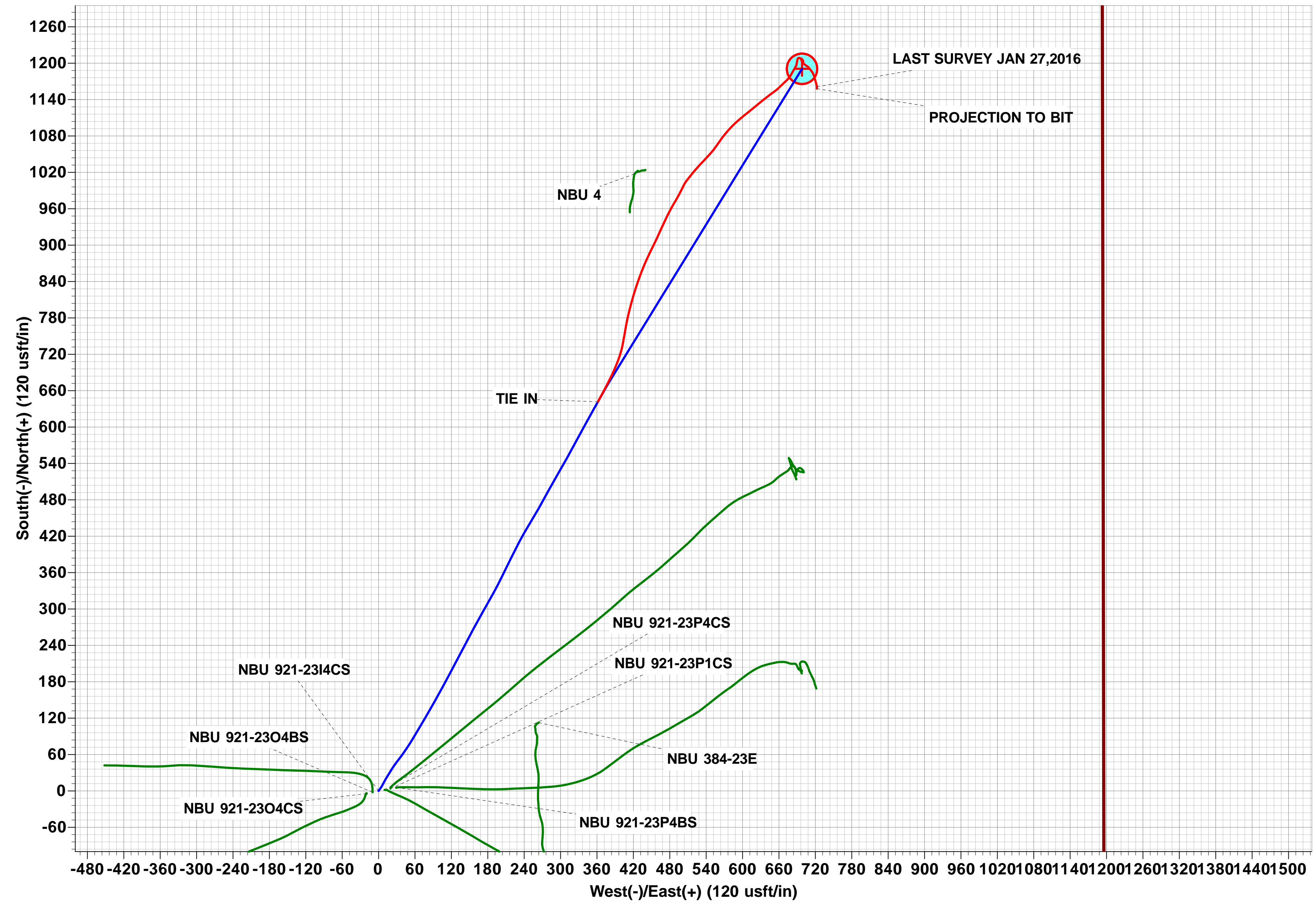
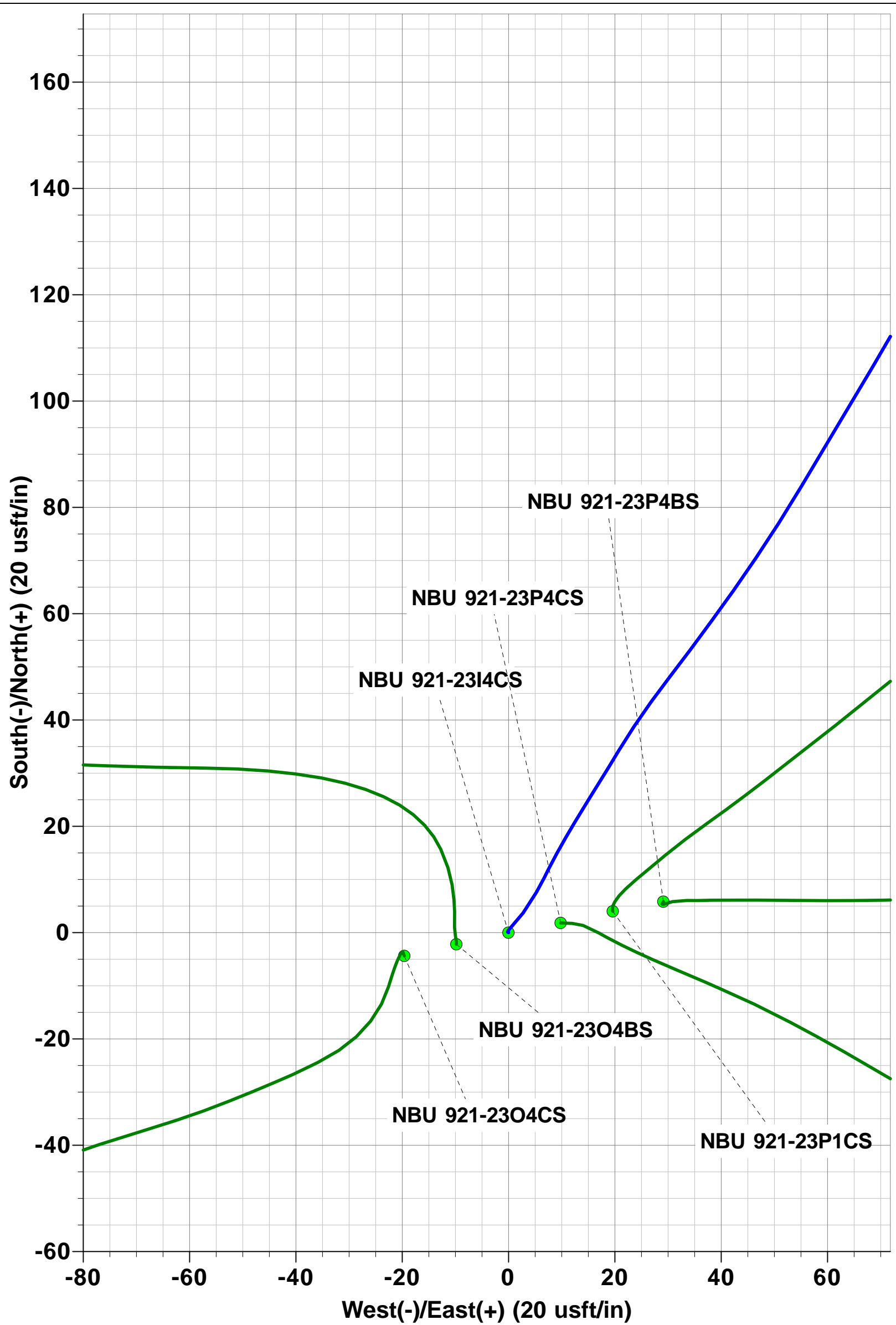
PROJECT DETAILS: UINTAH COUNTY, UTAH (NAD 27)	
Geodetic System: Universal Transverse Mercator (US Survey Feet)	
Datum: NAD 1927 (NADCON CONUS)	
Ellipsoid: Clarke 1866	
Zone: Zone 12N (114 W to 108 W)	
Padsite: SW SE SEC. 23 T9S R21E (NBU 921-23P PAD)	

WELL DETAILS: NBU 921-23I4CS							
Ground Level: 4896.6							
+N/-S 0.0	+E/-W 0.0	Northing 14535090.02	Easting 2056752.28	Latitude 40.015301	Longitude -109.513094		
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - NBU 921-23I4CS	9773.0	1190.8	698.0	14536292.11	2057430.17	40.018570	-109.510602



ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation	
2774.4	2892.6	19.20	29.09	641.8	361.7	736.6	0.0	TIE IN	
9742.3	9936.0	2.99	182.94	1161.2	722.6	1367.2	746.5	LAST SURVEY JAN 27, 2016	
9802.2	9996.0	2.99	182.94	1158.1	722.4	1364.4	749.6	PROJECTION TO BIT	

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation	
2774.4	2892.6	19.20	29.09	641.8	361.7	736.6	0.0	TIE IN	
9742.3	9936.0	2.99	182.94	1161.2	722.6	1367.2	746.5	LAST SURVEY JAN 27, 2016	
9802.2	9996.0	2.99	182.94	1158.1	722.4	1364.4	749.6	PROJECTION TO BIT	



<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-23I4CS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TVD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Site:</b>	SW SE SEC. 23 T9S R21E (NBU 921-23F	<b>MD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Well:</b>	NBU 921-23I4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB# 2015-162-145 -PRODUCTION	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (NAD 27)		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		Using geodetic scale factor

Site	SW SE SEC. 23 T9S R21E (NBU 921-23P PAD)				
Site Position:		Northing:	14,535,085.33 usft	Latitude:	40.015289
From:	Lat/Long	Easting:	2,056,732.75 usft	Longitude:	-109.513164
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000 ft	Grid Convergence:	0.96 °

Well	NBU 921-23I4CS					
Well Position	+N/-S	0.0 usft	Northing:	14,535,090.02 usft	Latitude:	40.015301
	+E/-W	0.0 usft	Easting:	2,056,752.28 usft	Longitude:	-109.513094
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,896.6 usft

<b>Wellbore</b>	JOB# 2015-162-145 -PRODUCTION				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	06/11/2015	10.59	65.76	51,797

Design	FINAL SURVEYS			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 2,892.6
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	30.38

<b>Survey Program</b>	<b>Date</b>	27/01/2016			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
141.6	2,892.6	SURFACE SURVEYS (SURFACE)	MWD	MWD - Standard	
2,961.0	9,996.0	FINAL SURVEYS (JOB# 2015-162-145 -P	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
<b>TIE IN</b>										
2,892.6	19.20	29.09	2,774.4	-2,135.2	641.8	361.7	736.6	0.00	0.00	0.00
2,961.0	19.29	27.55	2,839.0	-2,070.6	661.6	372.4	759.1	0.75	0.13	-2.25
3,051.0	18.11	25.27	2,924.3	-1,985.3	687.5	385.2	787.9	1.54	-1.31	-2.53
3,140.0	16.44	20.26	3,009.2	-1,900.4	711.8	395.5	814.1	2.51	-1.88	-5.63
3,230.0	15.29	11.38	3,095.8	-1,813.8	735.4	402.3	837.9	2.98	-1.28	-9.87
3,320.0	14.90	9.01	3,182.7	-1,726.9	758.5	406.4	859.9	0.81	-0.43	-2.63
3,410.0	15.29	12.96	3,269.6	-1,640.0	781.4	410.9	882.0	1.22	0.43	4.39
3,500.0	16.00	14.98	3,356.3	-1,553.3	805.0	416.8	905.2	0.99	0.79	2.24
3,590.0	15.51	17.88	3,442.9	-1,466.7	828.4	423.7	928.9	1.03	-0.54	3.22
3,680.0	15.38	20.43	3,529.7	-1,379.9	851.1	431.5	952.4	0.77	-0.14	2.83

<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-2314CS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TVD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Site:</b>	SW SE SEC. 23 T9S R21E (NBU 921-23F)	<b>MD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Well:</b>	NBU 921-2314CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB# 2015-162-145 -PRODUCTION	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,770.0	15.83	23.86	3,616.3	-1,293.3	873.5	440.7	976.4	1.14	0.50	3.81
3,860.0	17.80	26.76	3,702.5	-1,207.1	897.0	451.8	1,002.3	2.38	2.19	3.22
3,949.0	16.08	24.21	3,787.6	-1,122.0	920.4	463.0	1,028.2	2.10	-1.93	-2.87
4,039.0	12.30	24.65	3,874.9	-1,034.7	940.5	472.1	1,050.1	4.20	-4.20	0.49
4,129.0	11.07	28.34	3,963.0	-946.6	956.8	480.2	1,068.3	1.60	-1.37	4.10
4,219.0	10.46	31.33	4,051.4	-858.2	971.4	488.6	1,085.1	0.92	-0.68	3.32
4,309.0	8.61	27.11	4,140.2	-769.4	984.3	495.9	1,100.0	2.20	-2.06	-4.69
4,399.0	7.87	24.83	4,229.2	-680.4	995.9	501.5	1,112.8	0.90	-0.82	-2.53
4,489.0	8.17	37.22	4,318.4	-591.2	1,006.6	508.0	1,125.3	1.95	0.33	13.77
4,579.0	8.39	38.72	4,407.4	-502.2	1,016.8	516.0	1,138.2	0.34	0.24	1.67
4,669.0	9.27	42.05	4,496.4	-413.2	1,027.3	524.9	1,151.8	1.13	0.98	3.70
4,759.0	10.28	43.72	4,585.1	-324.5	1,038.5	535.3	1,166.7	1.17	1.12	1.86
4,849.0	10.41	42.05	4,673.6	-236.0	1,050.4	546.3	1,182.4	0.36	0.14	-1.86
4,939.0	9.49	34.94	4,762.2	-147.4	1,062.5	556.0	1,197.8	1.70	-1.02	-7.90
5,029.0	9.23	35.81	4,851.0	-58.6	1,074.4	564.5	1,212.4	0.33	-0.29	0.97
5,119.0	10.94	40.21	4,939.6	30.0	1,086.8	574.2	1,228.0	2.08	1.90	4.89
5,209.0	13.14	46.45	5,027.7	118.1	1,100.4	587.2	1,246.2	2.84	2.44	6.93
5,299.0	13.01	51.11	5,115.3	205.7	1,113.8	602.5	1,265.5	1.18	-0.14	5.18
5,389.0	11.51	50.93	5,203.3	293.7	1,125.8	617.3	1,283.4	1.67	-1.67	-0.20
5,479.0	9.80	50.84	5,291.7	382.1	1,136.3	630.2	1,299.0	1.90	-1.90	-0.10
5,569.0	8.79	51.90	5,380.5	470.9	1,145.4	641.6	1,312.6	1.14	-1.12	1.18
5,659.0	7.82	55.06	5,469.6	560.0	1,153.1	652.0	1,324.5	1.19	-1.08	3.51
5,749.0	7.08	44.69	5,558.8	649.2	1,160.6	660.9	1,335.5	1.70	-0.82	-11.52
5,838.0	6.86	47.68	5,647.2	737.6	1,168.1	668.7	1,345.9	0.48	-0.25	3.36
5,928.0	5.89	41.79	5,736.6	827.0	1,175.1	675.8	1,355.5	1.30	-1.08	-6.54
6,018.0	4.79	26.94	5,826.2	916.6	1,181.9	680.6	1,363.8	1.95	-1.22	-16.50
6,108.0	3.82	29.93	5,916.0	1,006.4	1,187.9	683.8	1,370.6	1.11	-1.08	3.32
6,198.0	3.82	32.83	6,005.8	1,096.2	1,193.0	686.9	1,376.5	0.21	0.00	3.22
6,288.0	3.03	12.26	6,095.6	1,186.0	1,197.8	689.0	1,381.8	1.61	-0.88	-22.86
6,378.0	2.59	7.34	6,185.5	1,275.9	1,202.2	689.8	1,385.9	0.56	-0.49	-5.47
6,468.0	1.63	12.52	6,275.5	1,365.9	1,205.4	690.3	1,389.0	1.09	-1.07	5.76
6,558.0	1.45	30.54	6,365.4	1,455.8	1,207.7	691.2	1,391.4	0.57	-0.20	20.02
6,648.0	0.92	75.10	6,455.4	1,545.8	1,208.8	692.4	1,393.0	1.14	-0.59	49.51
6,738.0	1.10	111.84	6,545.4	1,635.8	1,208.7	693.9	1,393.7	0.73	0.20	40.82
6,828.0	1.36	128.28	6,635.4	1,725.8	1,207.7	695.6	1,393.7	0.48	0.29	18.27
6,918.0	1.01	154.55	6,725.4	1,815.8	1,206.3	696.8	1,393.1	0.71	-0.39	29.19
7,008.0	0.92	138.73	6,815.3	1,905.7	1,205.1	697.6	1,392.4	0.31	-0.10	-17.58
7,098.0	1.41	149.46	6,905.3	1,995.7	1,203.6	698.6	1,391.6	0.59	0.54	11.92
7,188.0	0.30	244.82	6,995.3	2,085.7	1,202.5	699.0	1,390.9	1.63	-1.23	105.96
7,278.0	0.88	309.51	7,085.3	2,175.7	1,202.9	698.2	1,390.8	0.89	0.64	71.88
7,368.0	1.27	334.03	7,175.3	2,265.7	1,204.2	697.2	1,391.5	0.66	0.43	27.24
7,458.0	0.79	352.05	7,265.3	2,355.7	1,205.7	696.7	1,392.5	0.64	-0.53	20.02
7,547.0	0.48	9.27	7,354.3	2,444.7	1,206.7	696.7	1,393.3	0.41	-0.35	19.35
7,638.0	0.35	354.15	7,445.3	2,535.7	1,207.3	696.7	1,393.9	0.19	-0.14	-16.62
7,728.0	0.22	355.03	7,535.3	2,625.7	1,207.8	696.7	1,394.3	0.14	-0.14	0.98
7,818.0	0.40	140.84	7,625.3	2,715.7	1,207.7	696.9	1,394.3	0.66	0.20	162.01
7,908.0	0.18	116.76	7,715.3	2,805.7	1,207.4	697.2	1,394.2	0.27	-0.24	-26.76
7,997.0	1.19	140.49	7,804.3	2,894.7	1,206.6	697.9	1,393.9	1.15	1.13	26.66
8,087.0	1.49	138.65	7,894.2	2,984.6	1,205.0	699.3	1,393.2	0.34	0.33	-2.04
8,177.0	1.14	179.52	7,984.2	3,074.6	1,203.3	700.1	1,392.1	1.08	-0.39	45.41
8,267.0	0.53	204.30	8,074.2	3,164.6	1,202.0	699.9	1,390.9	0.77	-0.68	27.53
8,357.0	0.18	27.99	8,164.2	3,254.6	1,201.7	699.8	1,390.6	0.79	-0.39	-195.90
8,448.0	0.70	184.79	8,255.2	3,345.6	1,201.3	699.8	1,390.3	0.95	0.57	172.31

<b>Company:</b>	ANADARKO PETROLEUM CORP	<b>Local Co-ordinate Reference:</b>	Well NBU 921-2314CS
<b>Project:</b>	UINTAH COUNTY, UTAH (NAD 27)	<b>TVD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Site:</b>	SW SE SEC. 23 T9S R21E (NBU 921-2314CS)	<b>MD Reference:</b>	KB @ 4909.6usft (ENS 145)
<b>Well:</b>	NBU 921-2314CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB# 2015-162-145 -PRODUCTION	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,538.0	0.70	165.54	8,345.2	3,435.6	1,200.2	699.9	1,389.4	0.26	0.00	-21.39
8,628.0	1.36	124.85	8,435.2	3,525.6	1,199.1	700.9	1,388.9	1.05	0.73	-45.21
8,717.0	0.92	133.29	8,524.2	3,614.6	1,198.0	702.3	1,388.7	0.53	-0.49	9.48
8,807.0	0.44	115.62	8,614.2	3,704.6	1,197.3	703.1	1,388.5	0.58	-0.53	-19.63
8,897.0	1.80	128.98	8,704.1	3,794.5	1,196.3	704.6	1,388.3	1.53	1.51	14.84
8,987.0	1.14	111.75	8,794.1	3,884.5	1,195.1	706.5	1,388.3	0.87	-0.73	-19.14
9,077.0	1.45	140.05	8,884.1	3,974.5	1,193.9	708.0	1,388.0	0.78	0.34	31.44
9,167.0	2.15	141.37	8,974.0	4,064.4	1,191.7	709.8	1,387.0	0.78	0.78	1.47
9,257.0	2.15	137.04	9,064.0	4,154.4	1,189.1	712.0	1,385.9	0.18	0.00	-4.81
9,347.0	1.41	147.00	9,153.9	4,244.3	1,187.0	713.8	1,385.0	0.89	-0.82	11.07
9,437.0	2.42	148.31	9,243.9	4,334.3	1,184.4	715.4	1,383.6	1.12	1.12	1.46
9,527.0	2.90	158.86	9,333.8	4,424.2	1,180.7	717.2	1,381.3	0.76	0.53	11.72
9,617.0	2.86	165.28	9,423.7	4,514.1	1,176.4	718.6	1,378.3	0.36	-0.04	7.13
9,707.0	3.03	163.70	9,513.6	4,604.0	1,171.9	719.8	1,375.1	0.21	0.19	-1.76
9,797.0	2.68	165.85	9,603.4	4,693.8	1,167.6	721.0	1,371.9	0.41	-0.39	2.39
9,887.0	2.72	160.09	9,693.3	4,783.7	1,163.6	722.3	1,369.1	0.30	0.04	-6.40
LAST SURVEY JAN 27,2016										
9,936.0	2.99	182.94	9,742.3	4,832.7	1,161.2	722.6	1,367.2	2.37	0.55	46.63
PROJECTION TO BIT										
9,996.0	2.99	182.94	9,802.2	4,892.6	1,158.1	722.4	1,364.4	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL - NBU 921-2314CS	0.00	0.00	9,773.0	1,190.8	698.0	14,536,292.11	2,057,430.17	40.018570	-109.510602
- survey misses target center by 49.3usft at 9936.0usft MD (9742.3 TVD, 1161.2 N, 722.6 E)									
- Circle (radius 25.0)									

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,892.6	2,774.4	641.8	361.7	TIE IN	
9,936.0	9,742.3	1,161.2	722.6	LAST SURVEY JAN 27,2016	
9,996.0	9,802.2	1,158.1	722.4	PROJECTION TO BIT	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-23I4CS GREEN				Spud date: 1/24/2014					
Project: UTAH-UINTAH				Site: NBU 921-23P PAD				Rig name no.: WYOMING/, ROCKY MOUNTAIN WELL SERVICE 3/3, APC GNB FOREMAN/, MILES 4/4	
Event: COMPLETION				Start date: 11/10/2016				End date: 11/11/2016	
Active datum: RKB @4,911.00usft (above Mean Sea Level)				UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation	
10/6/2016	9:00 - 10:30	1.50	DRLOUT	30	A	P		RIGGED UP, ND WH NU BOPS RU FLOOR.	
	10:30 - 13:00	2.50	DRLOUT	31	I	P		PU 37/8 BIT & 170 JTS 23/8 P-110 TAG UP @ 5601' RU DRLG EQUIP, BROKE CIRC REV.	
	13:00 - 15:30	2.50	DRLOUT	44	D	P		D/O CMT F/ 5601' TO 5698' D/O DV, CIRC CLEAN, RD SWIVEL.	
	15:30 - 17:30	2.00	DRLOUT	31	I	P		PU 127 JTS 23/8 TBG TAG @ 9896' , PBTD @ 9939' L/D JT 300 SWI SDFN.	
10/7/2016	7:00 - 7:30	0.50	DRLOUT	48		P		HSM, WORKING W/ POWER SWIVEL.	
	7:30 - 9:30	2.00	DRLOUT	44	A	P		RU SWIVEL, BROKE CIRC C/O CMT F/ 9896' TO 9939', CIRC WELL CLN W/ 145 BBLS T-MAC, RD SWIVEL TEST CSG & DV TO 3,000 PSI OK,	
	9:30 - 15:30	6.00	DRLOUT	31	I	P		L/D 301 JTS & BIT, FILL HOLE W/ T-MAC ND BOPS RIG DWN PARK RIG AWAY FROM WELL HEADS FOR TREANCHER THIS WEEKEND. SDFWE	
10/23/2016	10:00 - 11:00	1.00	PRPFRC	52	B	P		HSL-HIDG PRESSURE FILLED CSG WITH T-MAC, RU CAMEROON TEST TRUCK, TEAST CSG & FRAC VALVES 1ST PSI TEST TO 7030 PSI, HELD FOR 15 MIN LOST -44 PSI, NO MIGRATION OR COMMUNICATION W/ SURFACE,  FILLED SURFACE WITH 1 BBL H2O, TEST SURFACE CSG TO 500 PSI HELD FOR 5 MIN, LOST -79 PSI. 200 PSI ON SUFACE.	
10/27/2016	12:00 - 0:00	12.00	FRAC	36	H	P		MIRU CUTTERS WL. RIH PERF STG #1 AS DESIGN.  MIRU SCHLUMBERGER FRAC CREW.	
10/28/2016	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STG #1) WHP 1664 PSI, BRK 3582 PSI @ 4.9 BPM. ISIP 2757 PSI, FG. 0.76 ISIP 3218 PSI, FG. 0.81, NPI 461 PSI.	
10/29/2016	0:00 - 0:00	24.00	FRAC	36	H	P		SET CBP & PERF STG #2 AS DESIGNED FRAC STG #2)WHP 2982 PSI, BRK 3250 PSI @ 5 BPM. ISIP 2964 PSI, FG. 0.77 ISIP 3031 PSI, FG. 0.78, NPI 67 PSI.  RIH SET CBP & PERF STG #3 AS DESIGN.  FRAC STG #3) WHP 2752 PSI, BRK 3001 PSI @ 5.1 BPM. ISIP 2715 PSI, FG. 0.76 ISIP 3484 PSI, FG. 0.84, NPI 769 PSI.  SET CBP & PERF STG #4 AS DESIGNED	

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: WYOMING/, ROCKY MOUNTAIN  
WELL SERVICE 3/3, APC GNB FOREMAN/, MILES  
4/4

Event: COMPLETION

Start date: 11/10/2016

End date: 11/11/2016

Active datum: RKB @4,911.00usft (above Mean Sea  
Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
10/30/2016	0:00 - 4:15	4.25	FRAC	36	H	P		SIM OPS FRAC 921-23I4CS
	4:15 - 5:35	1.33	FRAC	46	F	Z		CHANGE OUT CHEMICAL FLOAT
	5:35 - 0:00	18.42	FRAC	36	H	P		FRAC STG #4)WHP 2820 PSI, BRK 3660 PSI @ 7.7 BPM. ISIP 2990 PSI, FG. 0.79 ISIP 3375 PSI, FG. 0.84, NPI 385 PSI.  SET CBP & PERF STG #5 AS DESIGNED.  FRAC STG #5) START PUMPING STG
10/31/2016	0:00 - 0:00	24.00	FRAC	36	H	P		FRAC STG #5)WHP 2475 PSI, BRK 2842 PSI @ 5 BPM. ISIP 2526 PSI, FG. 0.75 ISIP 2930 PSI, FG. 0.8, NPI 404 PSI.  RIH SET CBP & PERF STG #6 AS DESIGNED.  FRAC STG #6) WHP 2350 PSI, BRK 3662 PSI @ 6.6 BPM. ISIP 2775 PSI, FG. 0.79 ISIP 2897 PSI, FG. 0.81, NPI 122 PSI.  SET CBP & PERF STG #7 AS DESIGNED
	0:00 - 2:30	2.50	FRAC	36	H	P		SIM OPS/ FRAC 922-23O4CS
	2:30 - 4:05	1.58	FRAC	46	F	Z		CHANGE OUT CHEMICAL FLOAT, GET FR PUMPING
11/1/2016	4:05 - 0:00	19.92	FRAC	36	H	P		FRAC STG #7)WHP 2450 PSI, BRK 2761 PSI @ 5 BPM. ISIP 2487 PSI, FG. 0.78 ISIP 2813 PSI, FG. 0.82, NPI 326 PSI.  RIH SET CBP & SHOOT 6 OUT OF 8 GUNS AS DESIGN, WL BECAME STUCK @ 7834', PUMP 27 BBL DWN HOLE, WORK WL. WL WOULD NOT COME FREE, SURGE WELL T/ PIT. GUNS CAME FREE. SHOOT LAST 2 GUNS AS DESIGN. POOH.  FRAC STG #8) WHP 2068 PSI, BRK 2730 PSI @ 11 BPM. ISIP 2297 PSI, FG. 0.76 ISIP 2819 PSI, FG. 0.83, NPI 522 PSI.  SET KILL PLUG  TOTALFLUID- 219021 BBLS TOTAL SAND- 306507 LBS
	9:00 - 5:30		DRLOUT	30	A	P		ROAD RIG FROM NBU 1022-9A PAD TO LOCATION. HELD JSA MIRU, SPOT EQUIPMENT. NDWH, NUBOP. R/U FLOOR & TBG EQUIPMENT.  P/U NEW 3-7/8" FLOW TECH SEALED BEARING ROCK BIT, POBS W/ XN & RIH ON NEW 2-3/8" P-110 TBG, P/U UP TBG OFF TBG RACKS. (SLM) TBG WAS DRIFTED. EOT @ 7100'. KILL PLUG @ 7745'.
								SWI-SDFN
11/11/2016	7:00 - 7:15	0.25	DRLOUT	48	1	P		JSA DRLG PLUGS, PSI, PWR SWVL, LANDING TBG

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-23I4CS GREEN

Spud date: 1/24/2014

Project: UTAH-UINTAH

Site: NBU 921-23P PAD

Rig name no.: WYOMING/, ROCKY MOUNTAIN  
WELL SERVICE 3/3, APC GNB FOREMAN/, MILES  
4/4

Event: COMPLETION

Start date: 11/10/2016

End date: 11/11/2016

Active datum: RKB @4,911.00usft (above Mean Sea  
Level)

UWI: SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation
	7:15 - 17:00	9.75	DRLOUT	44	C			<p>(DRLG CBP#1) @ 7745'. DRILL OUT PRO DRILL 8K CBP IN 21 MIN. 1000# DIFF. RIH &amp; C/O 20' SAND TO CBP#2. PUMP=1700#.</p> <p>(DRLG CBP#2) @ 8031'. DRILL OUT 8K PRO DRILL PLUG IN 18 MIN. 500# DIFF. RIH &amp; C/O 25' SAND TO CBP#3. PUMP=2000#.</p> <p>(DRLG CBP#3) @ 8318'. DRILL OUT PRO DRILL 8K CBP IN 9 MIN. 400 # DIFF. RIH &amp; C/O 20' SAND TO CBP#4. PUMP=2100#.</p> <p>(DRLG CBP#4) @ 8819'. DRILL OUT PRO DRILL 8K CBP IN 12 MIN. 800# DIFF. RIH &amp; C/O 15' SAND TO CBP#5. PUMP=2600#.</p> <p>(DRLG CBP#5) @ 9115'. DRILL OUT PRO DRILL 8K CBP IN 14 MIN. 300# DIFF. RIH &amp; C/O 15" SAND TO CBP#6. PUMP=2600#</p> <p>(DRLG CBP#6) @ 9371'. DRILL OUT PRO DRILL 8K CBP IN 16 MIN. 200 # DIFF. RIH &amp; C/O 20' SAND TO CBP #7. PUMP=2600#</p> <p>(DRLG CBP#7) @ 9532'. DRILL OUT PRO DRILL 8K CBP IN 13 MIN. 200# DIFF. RIH &amp; C/O 20' SAND TO CBP#8. PUMP=2700#</p> <p>(DRLG CBP#8) @ 9713'. DRILL OUT PRO DRILL 8K CBP IN 14 MIN. 200# DIFF. RIH &amp; C/O 10' SAND TO PBTD @ 9939'. PUMP=2800#. CIRCULATE WELL CLEAN. R/D SWVL. POOH &amp; L/D 12 JTS ON PIPE RACKS. LAND TBG ON HANGER W/ 293 JTS NEW 2-3/8" P-110 TBG. EOT @ 9530.32', POBS W/ XN @ 9526.12'. R/D FLOOR AND TBG EQUIPMENT. NDBOP, NUWH. DROP BALL DN TBG AND PMP OFF THE BIT @ 3900#. P.T. FLOWLINE TO HAL 9000 (TEST SEP) TO 3000#. HELD GOOD. DID NOT SELL ANY GAS DURING DRILL OUT, ALL WATER.</p> <p>5PM TURN WELL OVER TO TEAM FLOW BACK CREW. LTR=208,471 BBLS. FTP=150#, SICP=2150#.</p>

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 921-23I4CS GREEN	Wellbore No.	00
Well Name	NBU 921-23I4CS	Wellbore Name	NBU 921-23I4CS
Report no.	1	Report date	10/28/2016
Project	UTAH-UINTAH	Site	NBU 921-23P PAD
Rig Name/No.	WYOMING/	Event	COMPLETION
Start date	11/10/2016	End date	11/11/2016
Spud date	1/24/2014	Active datum	RKB @4,911.00usft (above Mean Sea Level)
UWI	SE/SE/0/9/S/21/E/23/0/0/26/PM/S/377/E/0/1195/0/0		

1.3 General

Contractor	CUTTERS WIRELINE	Job method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING	Conveyed method	WIRELINE		

1.4 Initial Conditions

Fluid type	FRESH WATER	Fluid density	8.33 (ppg)
Surface press.	0.00 (psi)	Estimate res press	
TVD fluid top	0.0 (usft)	Fluid head	4,911.0 (usft)
Hydrostatic press.	2,125.13 (psi)	Press. difference	2,125.10 (psi)
Balance Cond	OVER BALANCED		

1.5 Summary

Gross Interval	7,795.0 (usft)-9,881.0 (usft)	Start Date/Time	10/28/2016 12:00AM
No. of intervals	61	End Date/Time	10/28/2016 12:00AM
Total shots	192	Net perforation interval	64.00 (usft)
Avg. shot density	3.00 (shot/ft)	Final surface pressure	
		Final press. date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	WASATCH/ H/			7,795.0	7,796.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		

## US ROCKIES REGION

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	WASATC H/			7,822.0	7,823.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	WASATC H/			7,848.0	7,849.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	WASATC H/			7,857.0	7,858.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	WASATC H/			7,892.0	7,893.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			7,954.0	7,955.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			7,992.0	7,993.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,010.0	8,011.0	3.00		0.410	EXP/8	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,063.0	8,064.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,224.0	8,225.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,231.0	8,232.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,246.0	8,247.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,269.0	8,270.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,278.0	8,279.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,296.0	8,298.0	3.00		0.410	EXP/7	3.125	120.00		19.00	PRODUCTION		

## US ROCKIES REGION

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	M E S A VERDE/			8,484.0	8,485.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,540.0	8,541.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,559.0	8,560.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,588.0	8,589.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,648.0	8,649.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,684.0	8,685.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,773.0	8,774.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,803.0	8,804.0	3.00		0.410	EXP/6	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,854.0	8,855.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,925.0	8,926.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,964.0	8,965.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			8,994.0	8,995.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,015.0	9,016.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,054.0	9,055.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,077.0	9,078.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		

## US ROCKIES REGION

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	M E S A VERDE/			9,099.0	9,100.0	3.00		0.410	EXP/5	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,132.0	9,133.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,194.0	9,195.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,210.0	9,211.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,248.0	9,249.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,279.0	9,280.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,298.0	9,299.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,330.0	9,331.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,355.0	9,356.0	3.00		0.410	EXP/4	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,392.0	9,393.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,409.0	9,410.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,424.0	9,425.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,439.0	9,440.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,453.0	9,454.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		

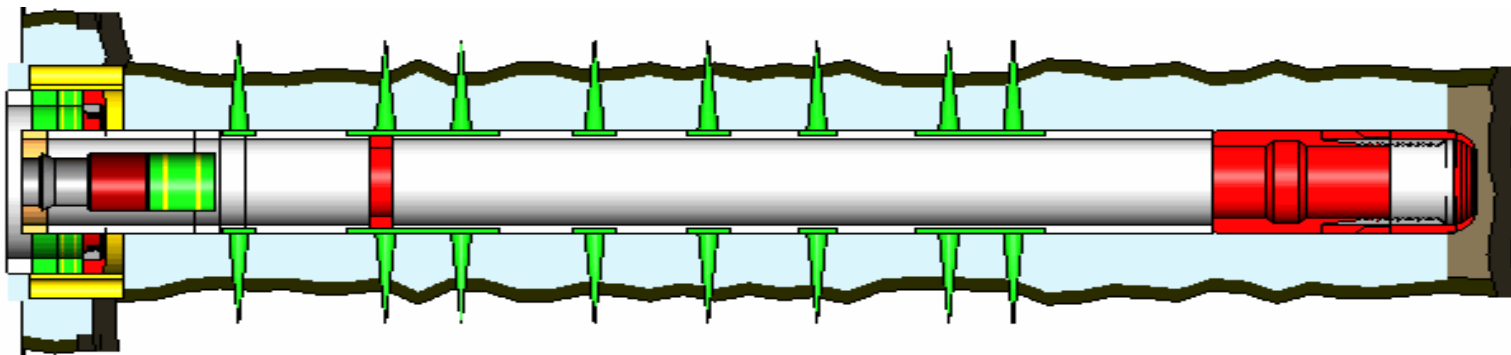
## US ROCKIES REGION

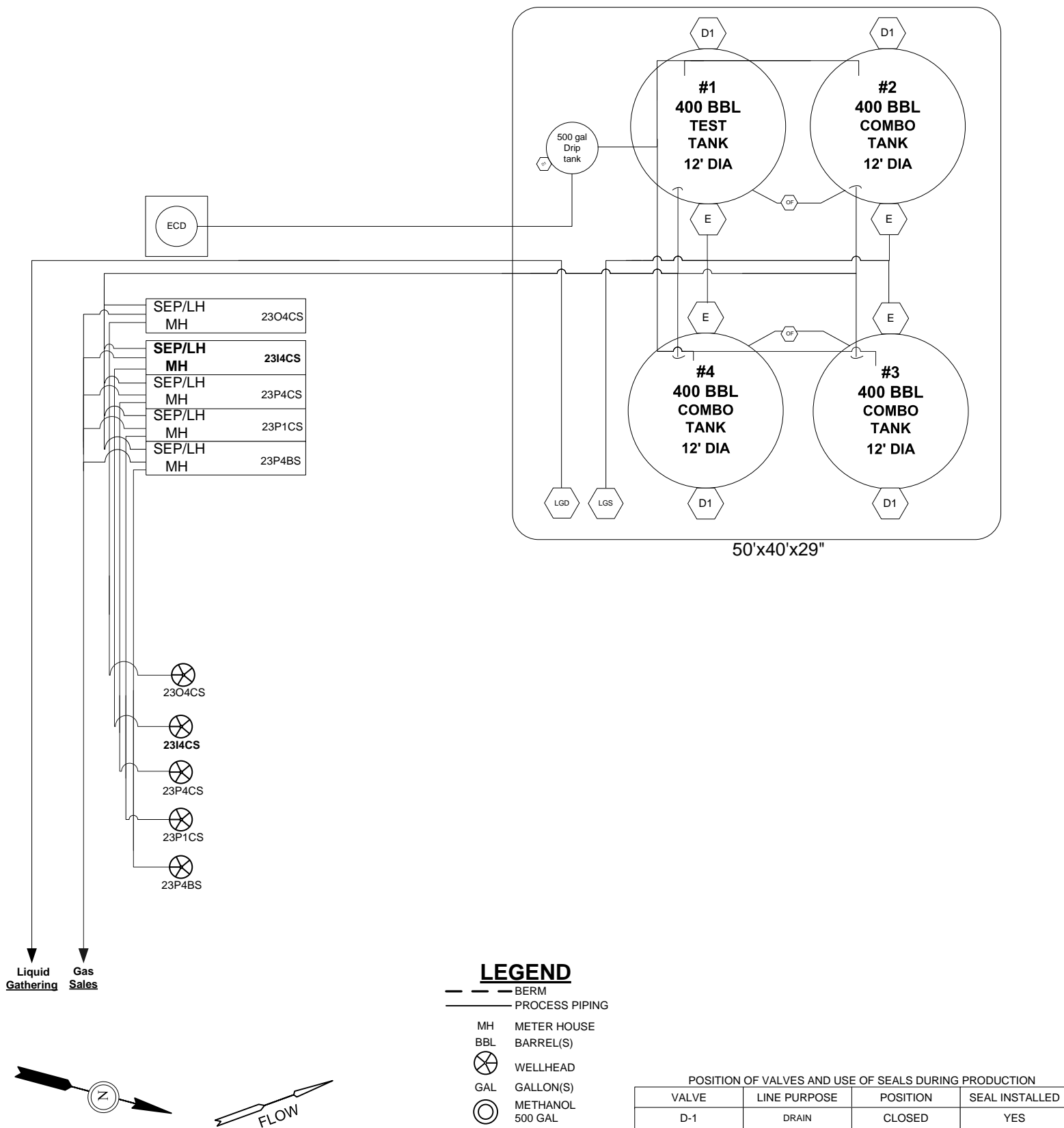
## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	M E S A VERDE/			9,477.0	9,478.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,489.0	9,490.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,516.0	9,517.0	3.00		0.410	EXP/3	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,545.0	9,546.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,605.0	9,606.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,635.0	9,636.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,655.0	9,656.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,666.0	9,668.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,696.0	9,698.0	3.00		0.410	EXP/2	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,725.0	9,726.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,756.0	9,757.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,766.0	9,767.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,776.0	9,777.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,808.0	9,809.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,834.0	9,835.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		

**2.1 Perforated Interval (Continued)**

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD top (usft)	MD base (usft)	Shot density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr type /Stage No	Carr size (in)	Phasing (°)	Charge desc. /Charge manufacturer	Charge weight (gram)	Reason	Misrun	How Guns Conveyed
10/28/2016 12:00AM	M E S A VERDE/			9,856.0	9,857.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		
10/28/2016 12:00AM	M E S A VERDE/			9,880.0	9,881.0	3.00		0.410	EXP/1	3.125	120.00		19.00	PRODUCTION		

**3 Plots****3.1 Wellbore Schematic**



# Kerr McGee Oil and Gas Onshore, L.P.

## Site Security / SPCC

### NBU 921-23P PAD

NBU 921-23P1CS, 23P4BS, 23P4CS, 23I4CS, 23O4CS

SESE SEC 23 T9S R21E

UINTAH COUNTY, UTAH

LEASE #UTU0149075

UNIT# UTU 63047A

#### Revisions


#### NOTE:

THIS LEASE IS SUBJECT TO THE SITE SECURITY PLAN FOR THE NATURAL BUTTES/OURAY FIELD FOR KERR MCGEE OIL AND GAS ONSHORE, L.P. THE PLAN IS LOCATED AT: 1368 SOUTH 1200 EAST VERNAL, UT 84078

Date: GO 11-3-16 Scale: no scale

RECEIVED: Dec. 08, 2016